SEPTEMBER 1955

Drug and Cosmetic Industry

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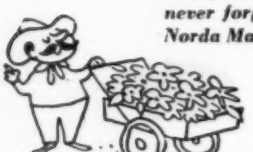

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INSIDE SCIENCE

The Vital Story of VITAMIN A

by Science Writer

We live in a golden age of the sciences!

In the science of nutrition discoveries of food elements and their action have resulted in the promise of better health for us all.

Let's consider vitamin A as an example.

A Capsule History. 1913 was the year. Two teams working independently with animal feeding experiments discovered that a diet which was good in all other respects but which varied only in the source of fat caused young animals to thrive or sicken as the fat was varied. The work of these teams (McCollum and Davis; Osborne and Mendel) led to the discovery of the food factor which we know as vitamin A.

Composition and Action. A pale yellow, oil-soluble substance, vitamin A is expressed in the chemist's shorthand as $C_{20}H_{29}OH$. It is necessary in the diets of men and animals to promote the body's growth and development. Vitamin A is a vital requirement in guarding the health of the eyes and skin, and for resistance against infection. It helps maintain the health of mucous membranes and other specialized epithelial and glandular tissues.

Vitamin A enters the body as a constituent of food. Or it may be created within the body when a precursor of vitamin A is eaten. A precursor is a food element with potential vitamin A *value* but no actual vitamin A *content*. For instance, many green leaves have a high vitamin A value but, paradoxically, contain no actual vitamin A. The body converts the precursor into the vitamin. The most common precursor of vitamin A is beta carotene, the natural yellow coloring of many foods, such as dairy products, cereal grains, carrots, alfalfa, etc.

When consumed in food vitamin A is absorbed primarily in the healthy intestine, is esterified in the intestine's walls and is carried as an ester in the lymph and blood to the body's storage depots. The liver, which has a large capacity for storage, contains about 90% of the vitamin A found in the body.

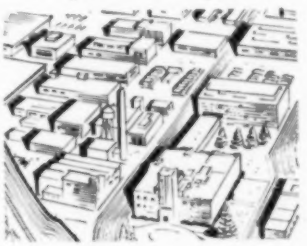
Isolation and Synthesis. It was not until 1937 that pure, crystalline vitamin A was isolated by Holmes and Corbett from fish-liver oil. Research in the synthesis of vitamin A was stimulated during the Second World War by the threat to natural sources in fish-liver oil. This work resulted in several processes to produce vitamin A synthetically. Of these, one of the most successful was evolved by the Roche research team headed by Dr. Otto Isler which was announced in 1947. Much of the vitamin A now used for pharmaceutical manufacturing and food fortification in the United States and many other countries of the world is produced by this process.

Vitamin A and beta carotene produced by the Hoffmann-La Roche synthesis have many positive advantages for food and pharmaceutical manufacturers. Among these are the complete absence of any "fishy" odor, taste, or after-taste; the reasonable and stable price; their stability, purity and uniformity and the assurance of a steady economical supply.

Vitamin A is described in the U. S. Pharmacopoeia as a fully acceptable compound for use in pharmaceutical products. The U. S. Food and Drug Administration has approved its use for the fortification of margarine and other foods.

Human Requirements. The Food & Nutrition Board of the National Research Council recommends that a daiiy allowance of 5000 International Units of vitamin A in the diet will maintain good nutrition of healthy adults in the U.S.A. The Board's recommendations vary above this for pregnant and lactating women, and below for infants and children. The adult dose used in therapy may vary from 50,000 to 200,000 units daily.

Production. At the huge Roche Park plant of Hoffmann-La Roche in Nutley, New Jersey, over 500 pieces of large-scale chemical engineering equipment are working constantly to produce the superior 'Roche' vitamin A. This production is so large that 'Roche' vitamin A comes from the plant actually by the tons. In fact, the entire needs of the food and pharmaceutical industries of the United States and Canada can be met from this one plant.



Again the Roche people, who have so often led the way in vitamin research and production, have made another contribution to the better health and well-being of countless millions.

This article is one of a series giving a brief resume of our present knowledge of those essential health factors—the vitamins. Reprints of this and other articles are available without charge. The Vital Story of Vitamin C was published previously and others are forthcoming. Send your request to: Vitamin Division, Hoffmann-La Roche Inc., Nutley 10, New Jersey. In Canada: Hoffmann-La Roche Ltd., 286 St. Paul St., W.; Montreal, Quebec.

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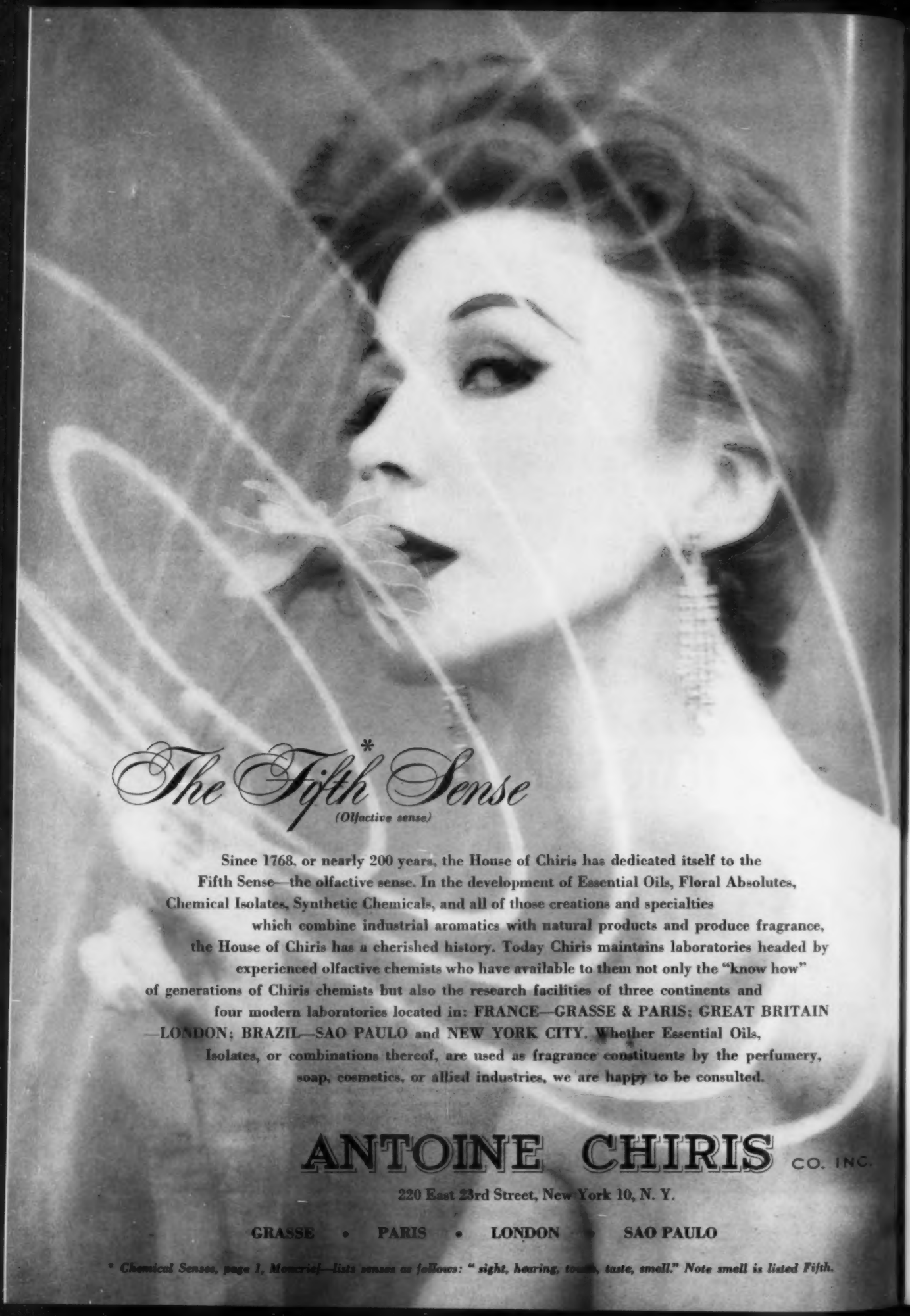
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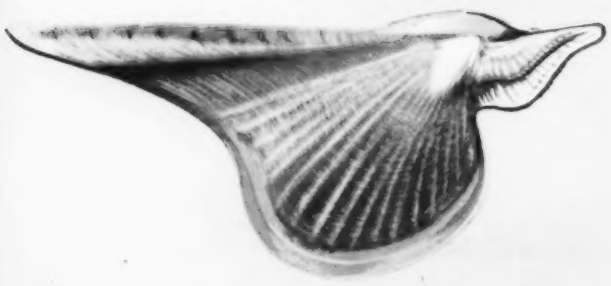

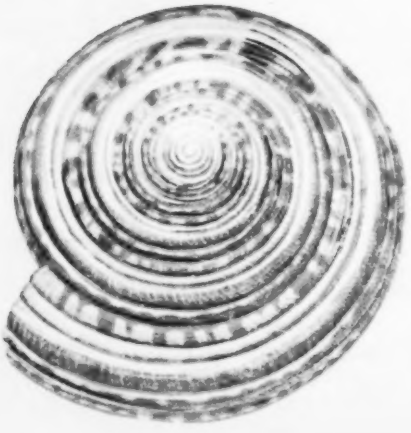

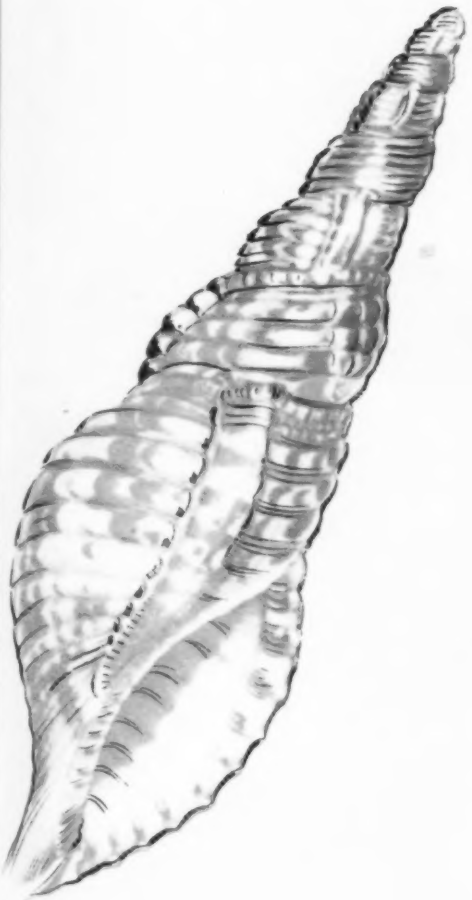

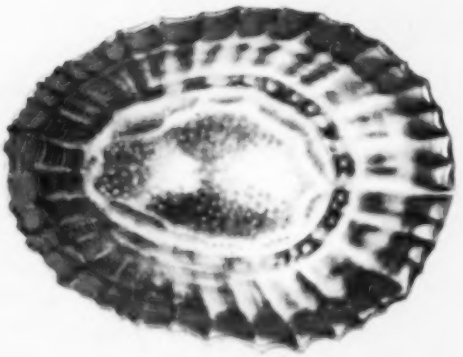

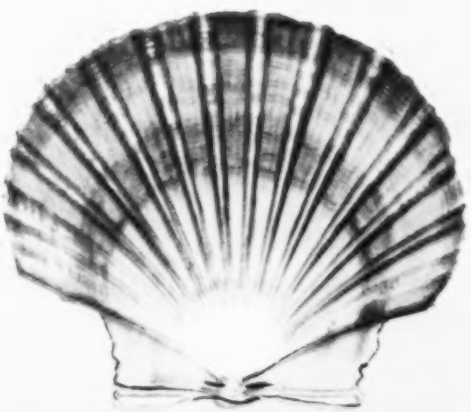

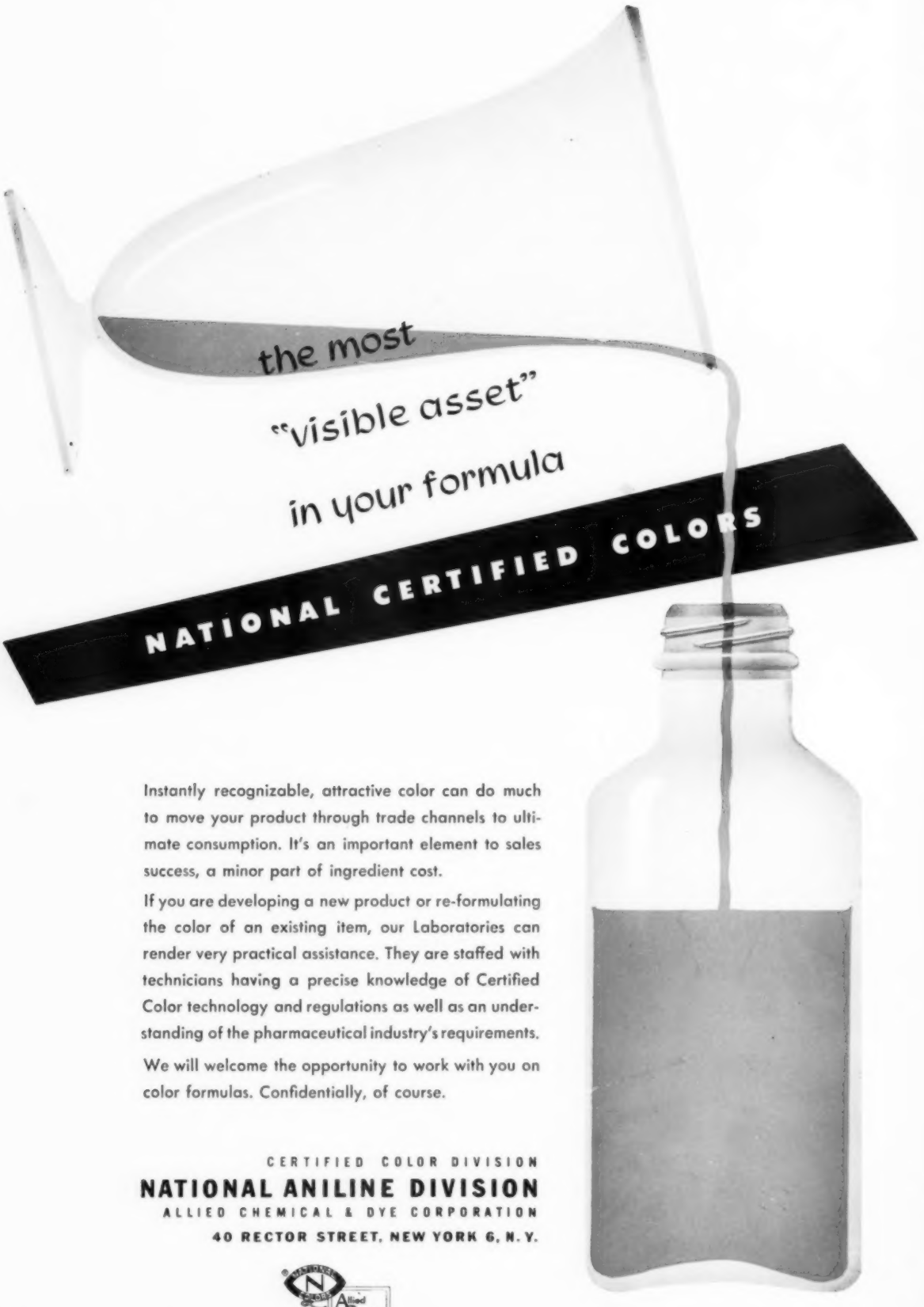

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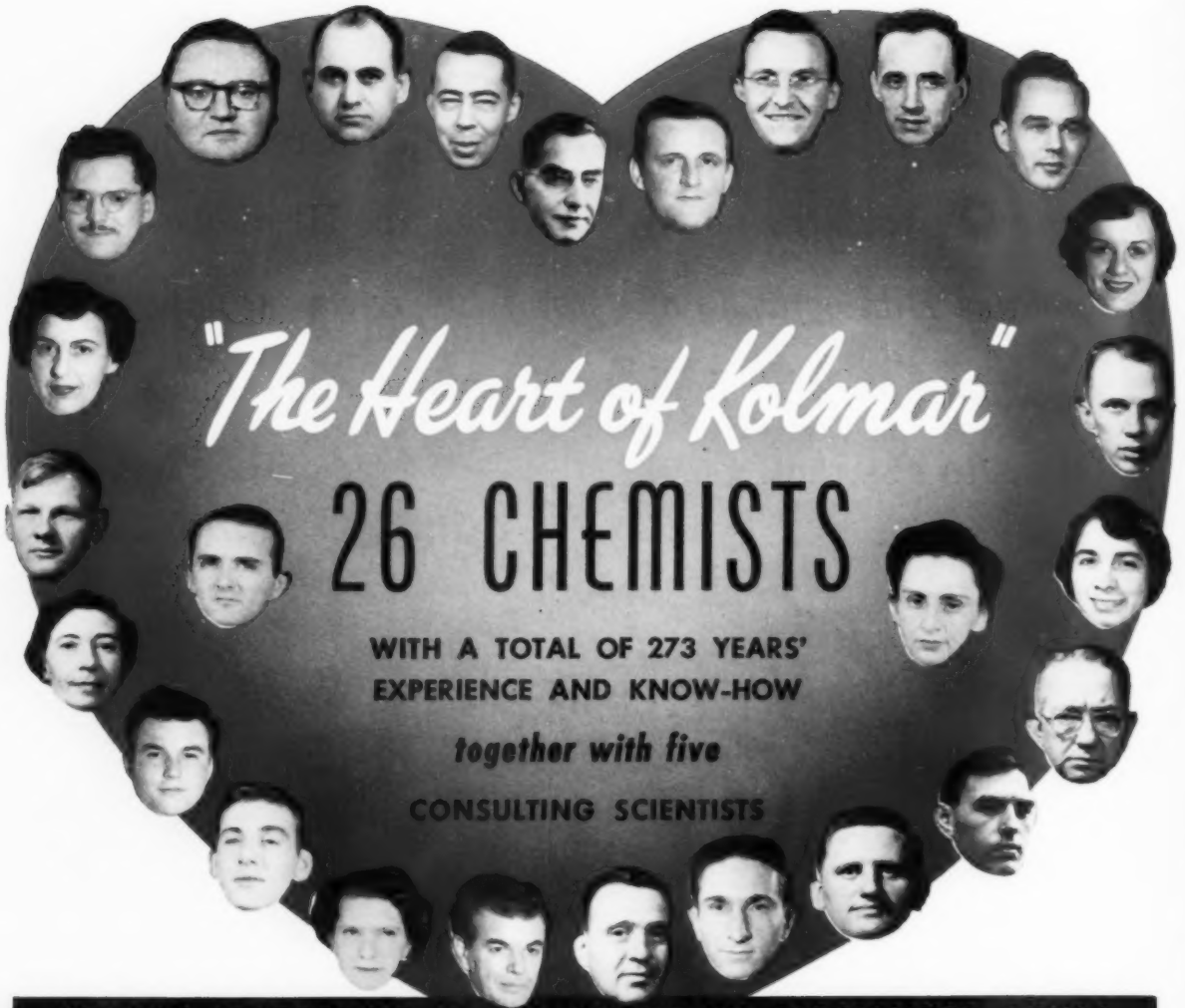
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Cyanamid Fine Chemicals

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FINE CHEMICALS DIVISION
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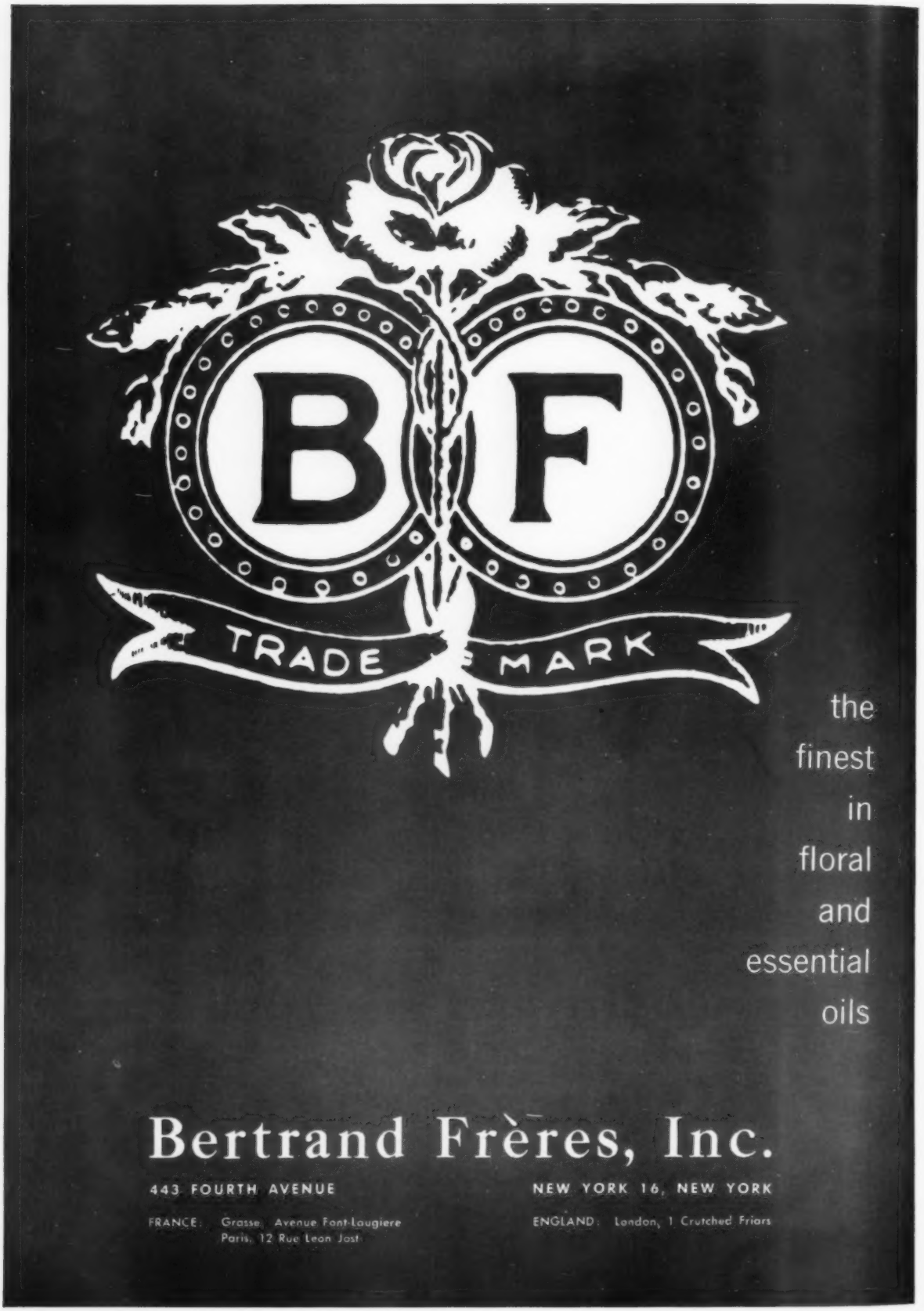
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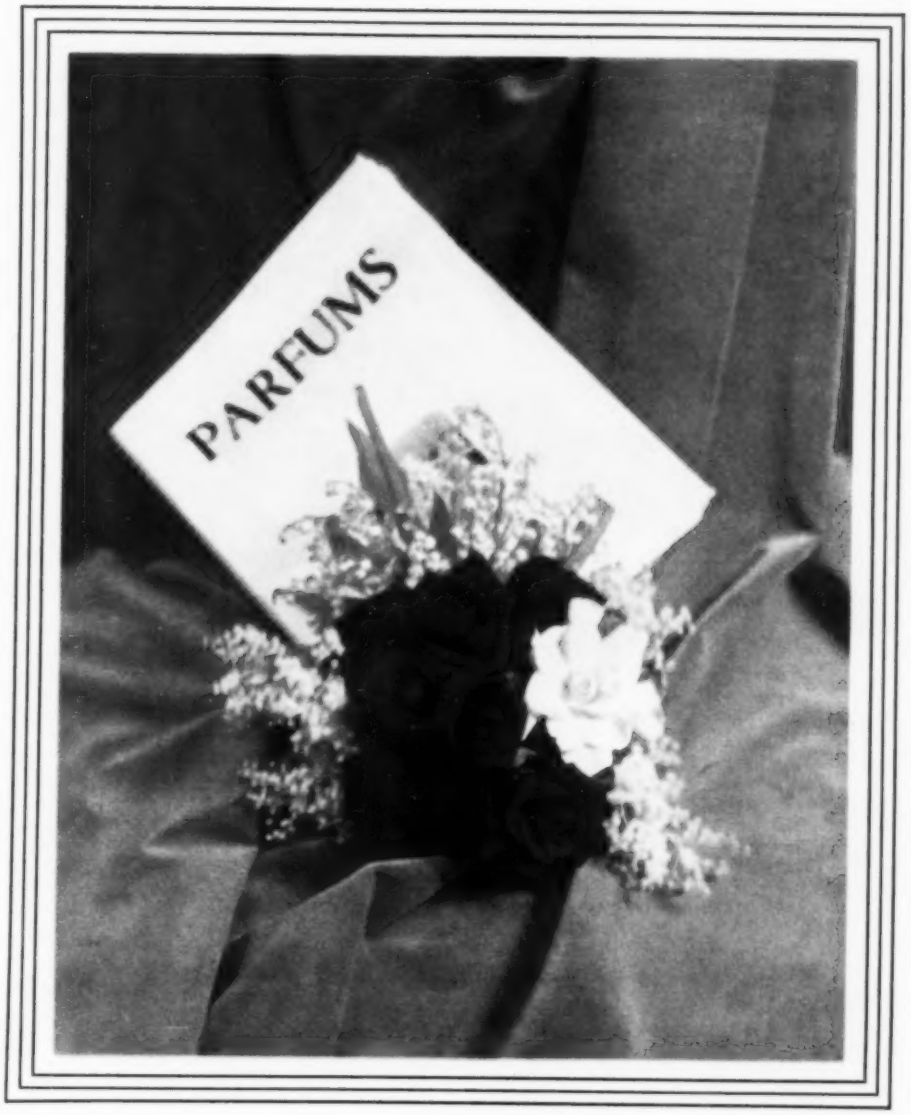

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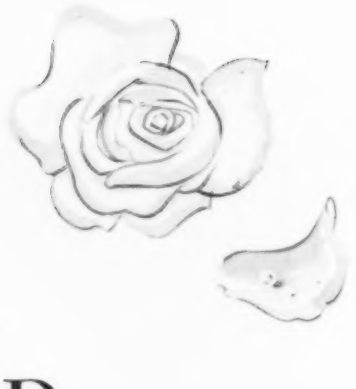

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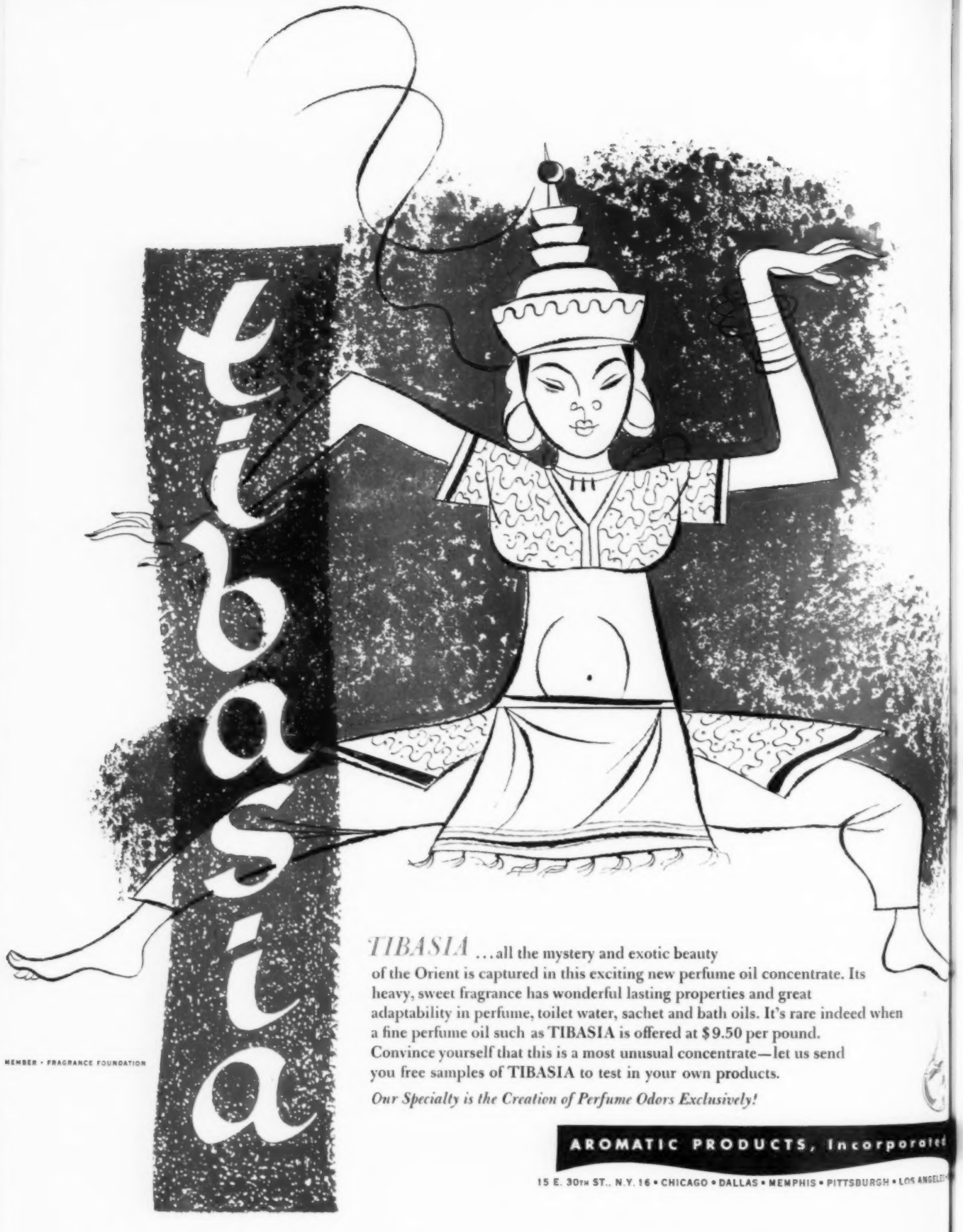

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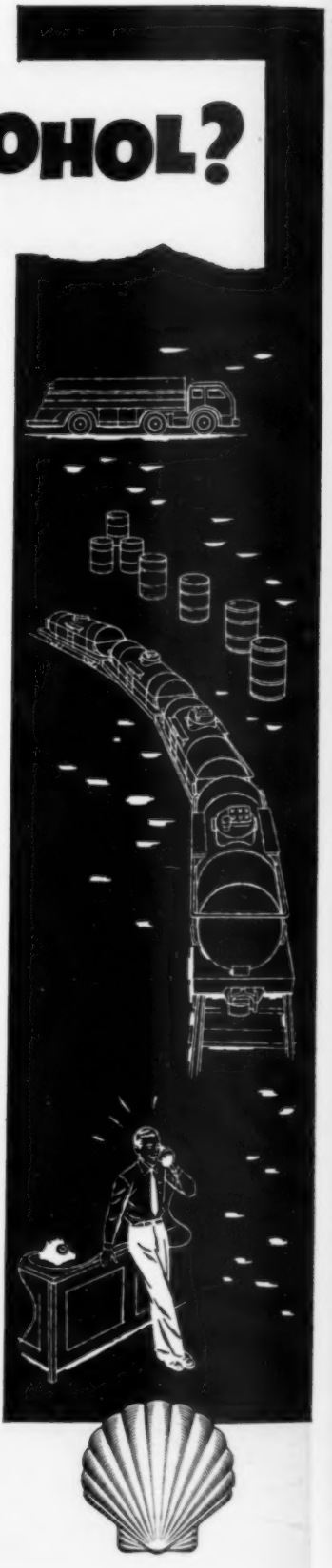

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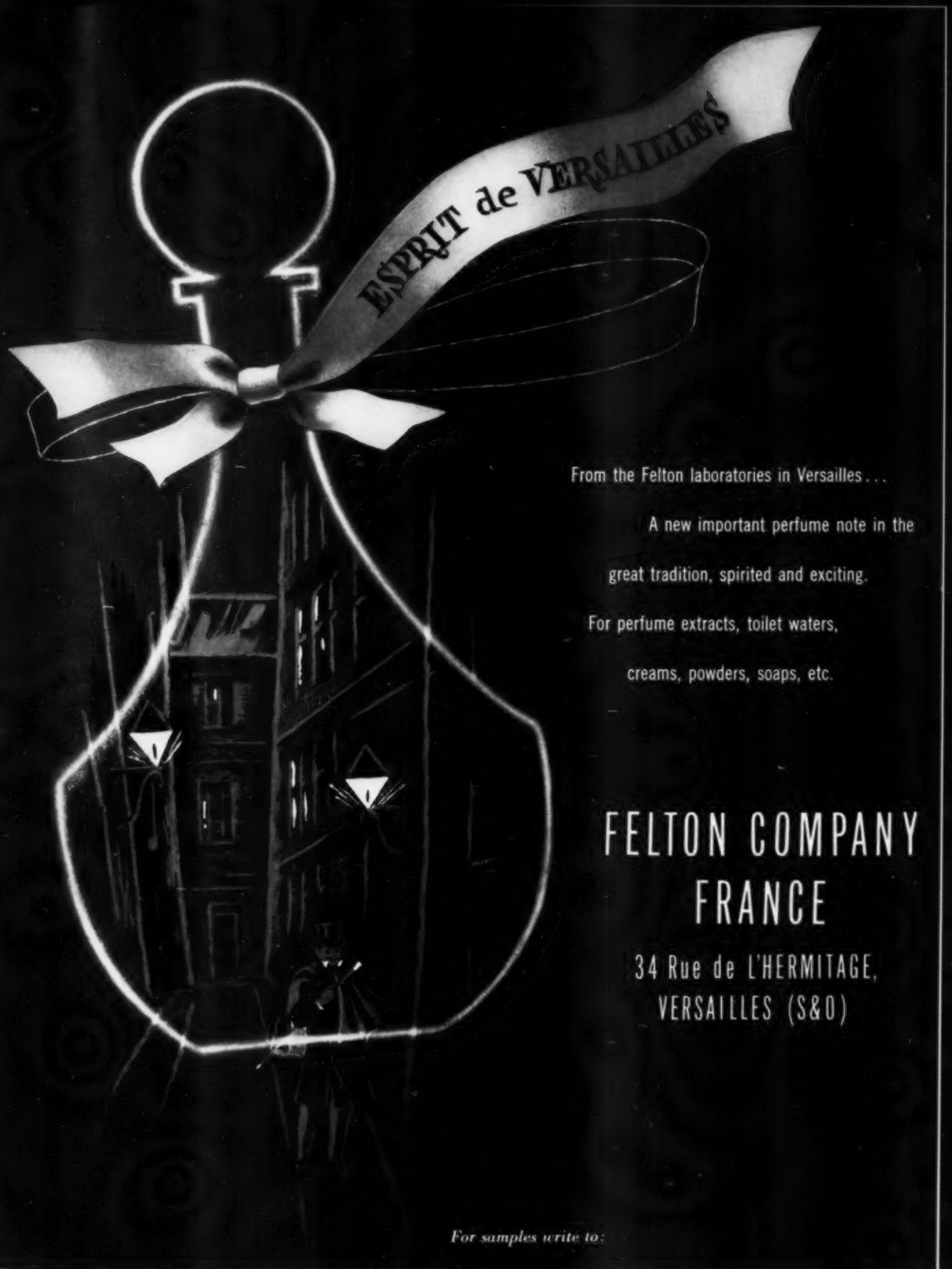

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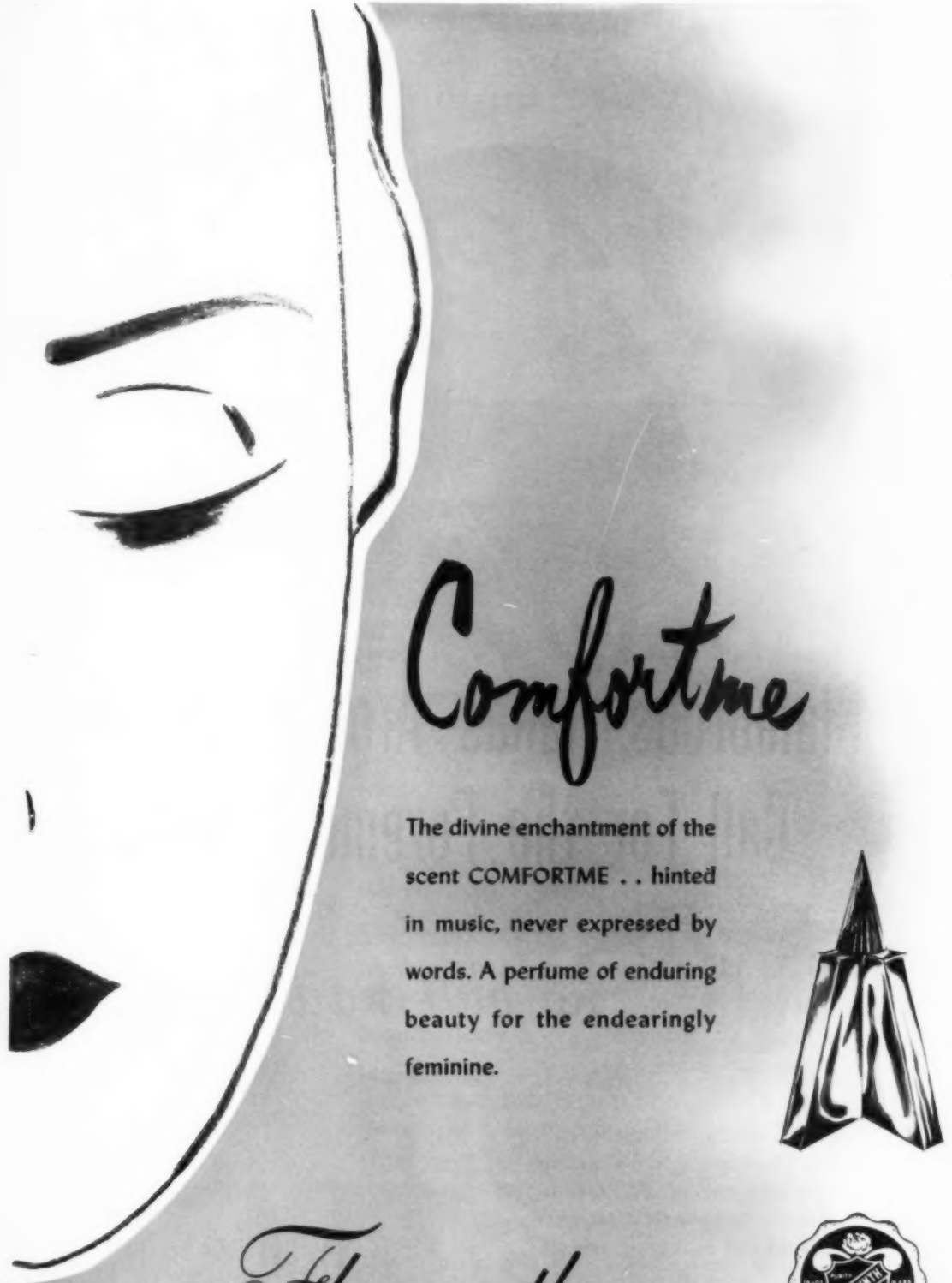
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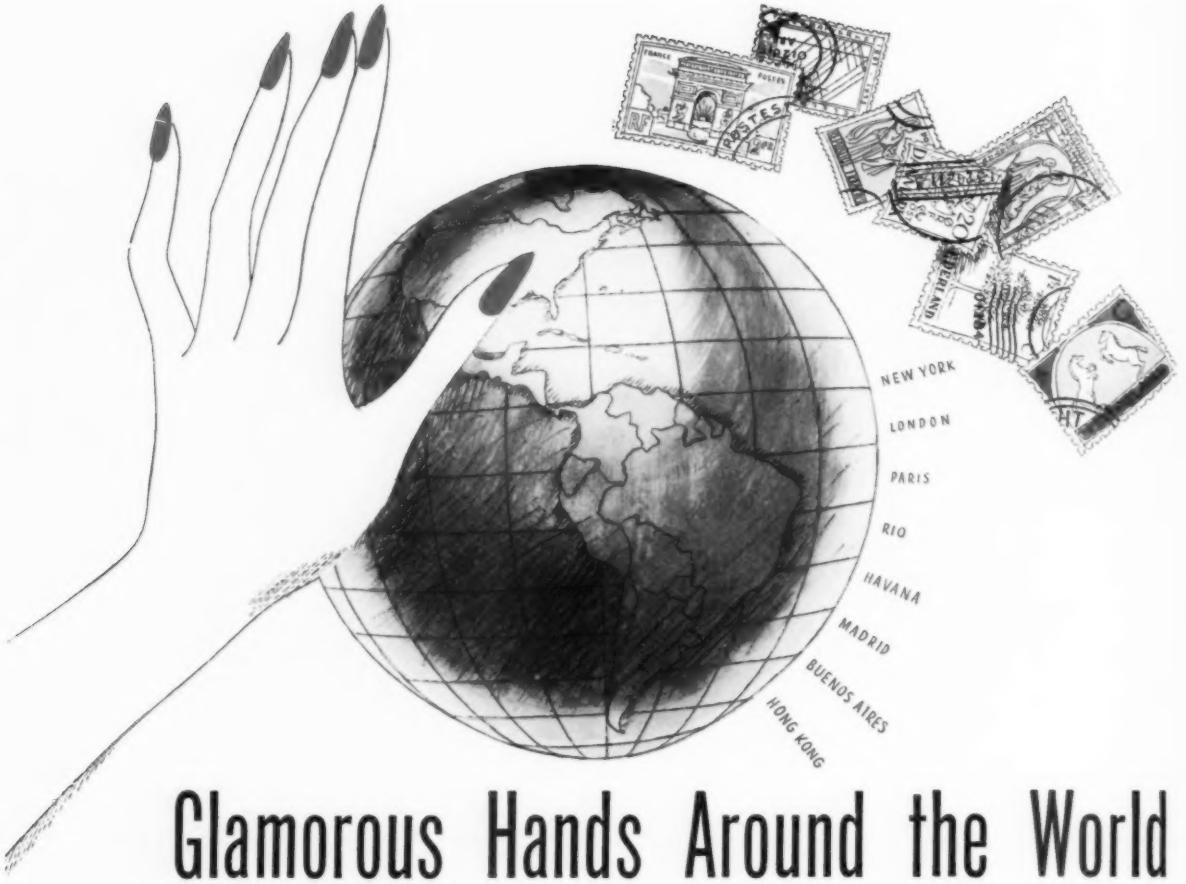

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Keeping Posted

Free Polio Shot Bills Enacted

Federal legislation has been enacted for the purpose of giving free polio vaccine shots to an estimated one-third of the eligible children and expectant mothers of the nation. The law is a compromise of the House and Senate versions of the free distribution bills first proposed, but follows mostly the provisions of the original House measure bill which tended to hold down the cost of the program by limiting free distribution chiefly to those unable to pay. An appropriation of $30 million was provided in a separate bill to finance the cost of the program, and an additional $300,000 was appropriated to the Food and Drug Administration for enforcement connected with the distribution of the vaccine.

The FDA funds are earmarked for work on polio vaccine enforcement and will enable the FDA to hire about forty-eight investigators and twelve clerks to oversee distribution and prevent development of a black market. FDA will be charged with the task of keeping track of the distribution of the vaccine and making sure that it stays in drug channels.

The final measure differs from the original House bill in only a few particulars. The original House bill provided for allotments to States based on 25 per cent of the number of unvaccinated eligible people arrived at by a certain mathematical formula. The final bill increased from 25 to 33 1/3 per cent the figure which determines this allotment. The original House measure also specified that funds authorized to be appropriated would remain available until December 31, 1957, while the final bill shortened this time to February 15, 1956, giving Congress an opportunity for an early examination of the situation early next year so that necessary changes can be made. It was explained that the legislation envisions a three-shot program.

The Department of Health, Education and Welfare has announced that the voluntary plan for allocation of polio vaccine, under which the States and territories will have the responsibility for distribution, both through commercial and public health channels, has gone into effect. It became effective immediately following the announcement by the National Foundation for Infantile Paralysis that its immediate summertime needs had been met and that it would not require all of the last batch of vaccine released for use. The Department emphasized the voluntary nature of the plan and the key responsibility of the States in the intrastate operation of the program. Under this plan, each new batch of the vaccine will be allocated among the States as it becomes available. The States will then determine what proportion of their share is to go to public health agencies and what amount will be distributed by the manufacturers through normal drug channels for use by private physicians.

Allocations to the States will be based on each State's proportion of children in the initial priority group, excluding children who have already been immunized under the program of the National Foundation for Infantile Paralysis. The current priority age group of five through nine was recommended by the National Advisory Committee on Poliomyelitis Vaccine last May. For the country as a whole, these children are in the age group most susceptible to poliomyelitis.

This voluntary plan follows the proposals for equitable distribution of the vaccine approved by President Eisenhower last May. Details of the plan were developed during the past few months through close collaboration between the National Advisory Committee, the U. S. Public Health Service, the Governors' Poliomyelitis Advisory Committee, the Association of State and Territorial Health Officers, manufacturers of the vaccine, representatives of the medical and pharmaceutical professions, the drug industry, and other interested groups.

Representative J. Percy Priest, Chairman of the House Interstate and Foreign Commerce Committee, has been sounding off regarding the Federal laws for controlling drug products. As the result of the Salk vaccine muddle, Mr. Priest, as well as other members of the House, have become more cognizant of the Federal controls over drug products and the way in which they work under existing law. For example, Mr. Priest questions "whether there is continued justification for differentiation in responsibilities of the Federal Government with regard to, first, new biological products; second, new drugs; and third, insulin and certain specified antibiotics." Looks like there might be trouble ahead in legislation having to do with this industry.

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Howry Resigns from F.T.C.

Edward F. Howry has resigned as chairman and a member of the Federal Trade Commission, and the President has accepted his resignation "reluctantly" To fill the vacancy on the Commission, President Eisenhower has made an interim appointment of Sigurd Anderson, a Republican, about 51 years old, Norwegian by birth. Mr. Anderson, if approved by the Senate, will serve out the unexpired term of Mr. Howry until September 26, 1959. President Eisenhower has named as the new chairman of the Commission, John W. Gwynne, of Waterloo, Iowa, who has served on the Commission since 1953. Mr. Gwynne, who served in World War I and was a member of Congress from 1935 to 1949, is 65 years old. From Mr. Gwynne's background it is believed that he will not be as interested in the anti-monopoly work as was Mr. Howry. It is thought that under his chairmanship the Commission's activities will take on a broader base operation.

To Review Medical Research of HEW

The National Science Foundation has appointed a committee on medical research to review and evaluate the medical research program of the Department of Health, Education and Welfare. The review is being made at the request of former Secretary Oveta Culp Hobby in a letter to director Dr. Alan T. Waterman. Mrs. Hobby said that the department's program comprises a major portion of the Federal activity in medical research and said she thought it should be subjected to critical review, particularly with regard to its scope and the distribution of support among the various areas of medical research.

In certain respects, the survey will be similar to that made of the Food and Drug Administration by the Citizens Committee appointed by Mrs. Hobby. However, in the FDA case, the main reason for the action was the reduction in appropriations by Congress in the face of increasing FDA duties and responsibilities, while in the present case Congress has been moving in the direction of greater appropriations than requested by the Budget Director.

The review will be directed to the following: Consideration of the rate of growth of the program of the National Institutes of Health, other research units of the Public Health Service, and other units of the department, in the light of the responsibilities of the Federal Government, with respect to health, medical and related research; a general appraisal of the present level of support of medical research by the department; careful consideration of the proper balance of efforts with respect to the support of basic research and research aimed more directly at the prevention, diagnosis, care and cure of diseases, and the relative distribution of effort among the major special fields of health service.

It will not be possible to relate the medical research program to the entire national effort in medical research until the findings of the Foundation's overall survey are complete, said Dr. Waterman. However, he will provide for a preliminary review and he has asked the special committee to submit its findings to the National Science Board in time for its December meeting.

The Special Committee is headed by Dr. C. N. H. Long, Department of Physiology, Yale University. Executive secretary of the Committee is Dr. Joseph Pisani, State University College of Medicine, New York. Other members are: Dr. A. E. Doisy, St. Louis School of Medicine; Dr. Ernest W. Goodpasture, Walter Reed Army Medical Center; Dr. A. B. Hastings, Harvard Medical School; Dr. Charles Huggins, University of Chicago; Dr. Colin M. MacLeod, New York University School of Medicine; Dr. C. Phillip Miller, University of Chicago; and Dr. W. M. Stanley, University of California.

Pharmaceutical Industry Airing

The Pharmaceutical Industry is to be the subject of the fifth annual meeting of the Industrial Council, a national forum of educators and American Industry, to be held this year on October 27, 28 and 29, at Rensselaer Polytechnic Institute, Troy, N. Y. Robert A. Hardt, vice-president of Hoffmann-La Roche, representing the industry, is chairman of the Program Committee.

Organized by R.P.I. with the cooperation of American industry, the Industrial Council has for its purpose promotion of a better understanding of industry's key role in today's world. In the preceding four sessions, approximately 600 leaders of the oil, chemical, electrical, and automotive manufacturing industries have been hosts to a total of nearly 3,000 secondary school teachers from across the nation. Some 1,000 educators representing secondary schools from Maine to California will attend the pharmaceutical industry session. Included will be State commissioners of education, superintendents and members of teacher college faculties.

Sunbeam Loses Florida Suit

Sunbeam Corporation, maker of Mixmaster and other appliances, has been battling discount houses for some time. Recently a suit was brought against Master of Miami, Inc., a Florida branch of Master, Inc., New York, in an effort to stop Master from obtaining Sunbeam appliances from wholesalers in other States. Sunbeam charged that Master obtained these appliances from wholesalers who had signed fair trade agreements in other States. Sunbeam wanted to subpoena Master officials to establish that Master induced these wholesalers to violate their fair trade contracts. Recently the case, brought in the Federal Court in Florida, reached the U. S. Circuit Court of Appeals in New Orleans and the court held that because the Supreme Court of Florida had expressed such a strong public policy against fair trade, use of the Federal courts in this manner was improper.

It seems from this that the Federal courts will be guided in their decisions by the opinions handed down by the high courts of the respective States. Also it would seem that, since fair trade acts are State laws, this method of arriving at decisions might be the proper one.

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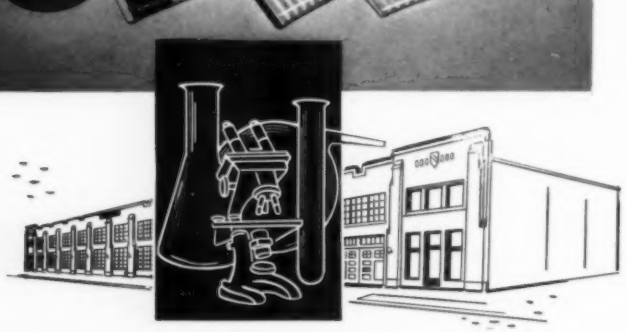

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New A.M.A. Council Program

The Council on Pharmacy and Chemistry of the American Medical Association has announced a new program to give physicians information on the usefulness and safety of new drugs. The announcement is described by the A.M.A. as "the first in a series by the A.M.A. councils on programs inaugurated to replace various 'seal-acceptance' activities discontinued in February."

The council says that it will examine available published and unpublished evidence relating to the actions, uses, dosages, hazards, and other properties of drugs. It will not conduct clinical and laboratory tests. Reports of these evaluations will be published for the information of the medical profession. The A.M.A. points out that for many years A.M.A. councils have evaluated products used by physicians and the public. In those programs, council seals were awarded to manufacturers and distributors of drugs, foods, devices, and cosmetics that met acceptance requirements.

"The evaluation of a multitude of individual brands, rather than classes of products, became so time-consuming that it threatened to interfere with the broader aspects of the council programs," said an editorial in the A.M.A. Journal. ". . . new and more effective programs are being adopted by the scientific councils—programs that do not require the inspection of individual products or the issuance of seals."

The Council on Pharmacy and Chemistry said:

"There is an increasing demand from the medical profession in general for concise and timely reports that contain an authoritative, unbiased evaluation of new therapeutic agents. . . . In this present era of rapid new developments in therapeutics, the work involved in processing for acceptance many different brands of a drug became cumbersome and time-consuming to the extent that physicians could no longer be provided with the type of service they desired.

"Under the new program drugs will be evaluated at the earliest possible opportunity in order to serve the best interests of the profession. As a rule the general interest in a new drug occurs at the time it is introduced on the market for general use. This is also the time when there is the most need for an unbiased report containing information that will aid physicians in judicious or proper use of such medication."

Pharmaceutical firms are invited to cooperate with the council by forwarding complete data and reports of all laboratory and clinical investigations relating to new drugs so evaluation reports may be made at the earliest possible time.

After council members and other recognized experts have considered the scientific clinical and laboratory evidence, evaluation reports will be published in the A.M.A. Journal and in New and Non-Official Remedies, published annually by the council. Firms will be given an opportunity to comment on the reports before publication and due consideration will be given to their comments.

The council will not endorse, recommend, or guarantee any individual brand or preparation of a drug described in New and Non-Official Remedies. It will not investigate manufacturing procedures, nor try to determine whether any firm has complied with the Federal, State or municipal laws and regulations. Each drug evaluated by the council will be described by a common or non-brand name.

Will Not Eliminate Pimples

Kay Preparations Company, New York, has agreed with the Federal Trade Commission not to represent that its preparations, Kay Genuine Colloidal Sulphur Soap and Kay Formula 301 Clear-Skin Lotion, whether used individually or in combination, will cure, heal, eliminate, or prevent pimples.

Dr. Adams on Fair Trade

In a recent issue of the Yale Law Journal, Dr. Walter Adams, an associate professor of economics at Michigan State College, and one of the four members of the Attorney-General's Committee to Study Antitrust Laws who voted in the minority to keep the fair trade enabling statutes on the books, wrote on Resale Price Maintenance: Fact and Fancy. It is Dr. Adams' contention that instead of repealing the fair trade laws, the existing requirement that all fair-traded goods must be in free and open competition with articles of the same general class produced by others should be vigorously enforced and extended to other forms of resale price maintenance.

While the Attorney-General's Committee voted overwhelmingly to repeal the Miller-Tydings Act and the McGuire Act, Dr. Adams points out that the committee "made no such recommendations with respect to other forms of price maintenance—despite the fact that fair trade accounts for only about ten billion dollars of annual consumer expenditures, while resale price maintenance effectuated without recourse to fair trade accounts for an estimated thirty billion dollars."

"In the heat of the controversy about fair trade," Dr. Adams continues, "a number of facts have been overlooked: the case against fair trade rests on highly ambivalent evidence; resale price maintenance can frequently be achieved without recourse to fair trade; the methods for maintaining resale prices other than fair trade have strong legal footing; and therefore a repeal of the Miller-Tydings and McGuire Acts is not an effective way of coping with the alleged vice of resale price maintenance.

"The opponents of the Miller-Tydings and McGuire Acts misconceive their targets. What should be urged by these critics is vigorous enforcement of the 'free and open' competition provisos of the fair trade laws. This is true for two reasons:

"1. If resale price maintenance is practiced in a healthy competitive atmosphere no significant restraint on competition results, yet at the same time, substantial protection is afforded against the evils flowing from loss-leader selling and from the competitive advantages of large chain distributors vis-a-vis small independents. 2. Even if Miller-Tydings and McGuire Acts were repealed, the non-conspirational and non-monopolistic producer could still maintain resale prices through consignment sales or

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Typical Specifications:

PHYSICAL APPEARANCE:	Light yellow liquid.
ODOR TYPE:	Fruity Rose.
SOLUBILITY:	45 parts soluble in 100 parts of 70% Ethyl Alcohol.
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REFRACTIVE INDEX $n\frac{20}{D}$:	1.4941
SPECIFIC GRAVITY $\frac{20}{20}$:	1.0510
QUALITY:	Specifications carefully checked in our modern control laboratories.
SUGGESTED USES:	As an addition to Rose compounds — 3% to 5% to impart the fruity floral note found in all Roses. Invaluable in Rose compositions for creams, powders, lotions, etc. Moderate in price.

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an agency system, or by exercising his right to refuse to deal, or possibly by reliance on the doctrine of equitable servitudes on chattels . . .

"Whatever technique the manufacturer employs, the economic effect of resale price maintenance is the same. If the principle of resale price maintenance is objectionable on economic grounds, it is objectionable regardless of the legal means used to effectuate it. If, therefore, fair trade is to be condemned because of its special status under the antitrust laws, doctrinal consistency requires that we condemn every other legal sanction for resale price maintenance.

"Similarly, if fair trade is to be approved as a matter of economic policy because of the 'free and open competition' safeguard, we should explicitly impose an identical safeguard in dealing with the alternative legal devices for attaining resale price maintenance.

"The fact is that the economic consequences of resale price maintenance are not undesirable in all circumstances; they are beneficial to consumer, independent retailer and manufacturer alike so long as the latter is subject to effective price competition."

Merrell Gains Award on Booklet

The Wm. S. Merrell Company has been granted an award of excellence by the American Institute of Graphic Arts for a product promotion booklet on Ganatrex, a liquid vitamin preparation. The booklet, distributed nationally to pharmacists, tells in its 3" by 3" size a compact cartoon story with the light touch of Artist Rudi Bass, according to Philip Ritter III, Merrell advertising manager. A contemporary antique hand lettering is used throughout it and its companion piece, A Reminder in Rhyme, which was mailed with the booklet.

Old Age Health Insurance

The Prudential Insurance will offer this month new special policies for individual sickness and accident insurance for persons 60 to 70 years of age. Carrol M. Shanks, Prudential president, says that this "senior hospital expense program" will be guaranteed renewable throughout the lifetime of the insured. However, the company reserves the right to change premiums because of the experimental nature of the policy. Various types of plans offer up to a maximum of thirty-five days hospitalization at $12 a day and $300 in surgical benefits and allowances. The aggregate amount of hospitalization allowances ranges up to $2,400.

Antiseptic Tooth Brush

An antiseptic tooth brush has been announced by Weco Products Company, makers of Dr. West Miracle-Tuft Tooth Brush. ". . . its germ-fighting action results from a special processing of every bristle, every tuft and the entire brush head with an exclusive anti-bacterial," says the announcement. "Developed after years of research work, this treatment is so unique that patents have been applied for on both the process and the anti-bacterial agent."

West points out that since the antiseptic qualities of the new brush last approximately four months, turnover of the brush will be accelerated as there should be a movement of three brushes a year to each customer. In fact the brush package will contain a sticker for bathroom cabinets on which the date a new toothbrush is needed can be written.

Another process for accomplishing this same product, and on which we are informed a patent application was filed some time ago, was reported in our January 1955 issue on page 95. This process was developed by Gallowhur Chemical Corporation and is trademarked as the Puratized process. Gallowhur made use of an organic mercury solution to impregnate their brushes, one pound of the solution being suficient to treat 3,000 brushes. Gallowhur also treated the brush handles. Work on guinea pigs and monkeys indicated the material was perfectly harmless. Gallowhur found that after thirty days a 25 per cent reduction of antiseptic activity had occurred, but after five months, when the tests were discontinued, the bristles were still antiseptic.

It is understood that use of the Puratized process in brushes other than tooth brushes might come about.

Silver Anniversary of "Freon"

The fluorine chemicals used for refrigeration and aerosol packaging will celebrate their twenty-fifth anniversary within about two months. Invented by Dr. Thomas Midgley Jr. (inventor of ethyl gasoline) and Dr. Albert L. Henne, both of General Motors, in a search for a non-toxic refrigerant for household refrigerators, these chemicals were trademarked Freon. Since that time many variations of these chemicals have been produced until now there are 21 different compounds in the group. During these twenty-five years, mechanical refrigeration has had a tremendous growth due to the availability of these chemicals. Also developed solely because these chemicals are available is the aerosol business which today is estimated at $250 million.

Uses for Old Tooth Brushes

"What do you do with old tooth brushes?" is a question to which E. I. du Pont de Nemours & Company sought an answer. Saying that even an all nylon tooth brush wears out eventually, it is pointed out that there are 200-odd good reasons why it shouldn't go into the waste basket. People told du Pont of 22 different jobs to which they applied castoff tooth brushes. Shoe cleaning led with 128 mentions; jewelry maintenance was second with 83. Not in the top ten, but often given, were cleaning of fixtures, gun parts, files, eyeglass rims, fishing tackle, electric razors, bicycle parts, golf clubs and leather articles. Housewives also mentioned cleaning toasters, sewing machines, window corners, picture frames, and mortar between tiles.

Hobbyists find tooth brushes useful for sprucing up their collections of old coins, stones, shells, and antique salt shakers, aquaria, model railroad tracks and flower bulbs. Hunters oil their boots with tooth brushes, and artists have a variety of uses for them. Well-aged bristles are said to be ideal for applying hair tint, glue,

paint, acid flux, and dozens of other things to small areas. Thirty-four uses were found for the handles alone, usually after filing or the application of heat. Typical uses were as non-conducting screwdrivers, letter openers, and hole-makers for garden seeds, and as ornaments and stirrers.

Ten of the more unusual uses are: scour pet turtle's back; clean mousetraps; wax or dye mustache; brush silk from corn; clean gum off bedposts; brush dog's teeth; apply ink to stamp pad; smooth frosting on cake; (bristles alone) as cat's whiskers on greeting cards; (handles alone) flint chipper in making strong arrowheads.

Water Fluoridation World-Wide

Fluoridation of public water supplies for prevention of dental decay is gaining world-wide acceptance, according to the Journal of the American Dental Association. Pointing to announcements that fluoridation is to be instituted shortly in Toronto, Canada, and Cairo, Egypt, the Journal said: "Thus within the space of a few short weeks, one of civilization's youngest cities and one of its oldest have taken steps to protect their children from one of civilization's oldest and most prevalent diseases." In addition to the United States, fluoridation is in operation in Brazil, Canada, Chile, Columbia, Germany, Holland, Japan, New Zealand, and Sweden.

Two New H. I. F. Projects

The Health Information Foundation is undertaking two research projects" to document the remarkable progress in medical and hospital care in recent years." One project, known as "50 Years of Progress in Medical Care," will result in comparative statistics on mortality and morbidity with special reference to changes in population, levels of living, and increased productivity. This two-study will also trace the availability and distribution of the nation's health services during the past half-century. Being supervised by Odin W. Anderson, Ph.D., the Foundation's Research Director, this project will be released to the medical profession and will eventually be published in book form for broader distribution.

The other project, to be conducted at Beth Israel Hospital in Boston under the direction of Dr. Cecil Sheps, executive director of the hospital and lecturer on preventive medicine at Harvard Medical School, will be a detailed analysis of patients treated in a large metropolitan hospital in 1932 compared with the hospital's population in 1932. Thus, it will be a review of all changes in diagnosis and treatment, in the characteristics of those hospitalized, in the progressive shortening of lengths of stay in the hospital and the relative periods of patient disability. This project will not only document improvement in the quality of medical care, but will also show the types of diseases now being treated in an acute general hospital. The comparative study of two "hospital years" separated by 20 years of medical advances will indicate trends which must be considered in hospital planning for the future.

Two Additive Bills

Representative J. Percy Priest, Chairman of House Interstate and Foreign Commerce Committee, has introduced two bills, H.R. 7605 and H.R. 7607, to amend the Food, Drug, and Cosmetic Act with respect to food additives. One of these bills, H.R. 7607, was prepared by representatives of a number of food industry groups and the Manufacturing Chemists Association, and was submitted to Mr. Priest by the Manufacturing Chemists Association. H.R. 7605 is sponsored by a number of food industry groups.

The MCA bill (H.R. 7607) makes it unlawful to ship a new food additive or food containing it until it has been pretested for safety and the data submitted to the FDA and approved after an evaluation period of 90 days or less.

Representative Priest has introduced these bills with "the hope that these bills will receive the careful study and consideration of all interested Government departments, groups and individuals."

Dr. Keefer Quits HEW

Dr. Chester S. Keefer, who rose to prominence in this industry back in World War II when he was put in charge of distribution of supplies of the then very scarce penicillin, has resigned from the Department of Health, Education and Welfare, where he has been a Special Medical Assistant to the Secretary. In addition to his work in this Washington department, Dr. Keefer has been Director of Medical Affairs at Boston University. He claims that from now on this work will consume all his available time.

Due to the fact that the Homestead Hotel, Hot Springs, Va., will not allow the Proprietary Association more than 350 reservations for the dates of May 10, 11 and 12, the Association has been forced to change the time and place of its 1956 meeting. Attendance at the 1955 meeting at the Greenbrier totaled 406 members and guests. The 1956 annual meeting of the Association is not definitely set for May 7, 8 and 9, at the Hollywood Beach Hotel, Hollywood, Florida.

Sun Preparations Up 20 Per Cent

The record hot weather of this Summer has had the effect of boosting sales of tanning lotions and sunburn preparations by 20 per cent over last year's sales, according to W. R. McHargue, director of advertising and marketing for E. R. Squibb & Sons. With the "bronzed look" now the popular thing for Summer, the trend is toward preparations which promote tanning as well as provide protection from sunburn, he says. Lotions in glass or plastic bottles are still popular sellers, but aerosol sprays are coming up fast, he continues. There is a relatively steady demand for the cream types, some of which can be used to treat sunburn as well as prevent it.

The market for sun preparations is expected to continue to grow as people have more leisure," said Mr. McHargue, "but so is competition. A number of new products have entered the field this year, so while total sales are going up, the competitive struggle is becoming more intense."

6 STRONG COBB FIRSTS IN PHARMACEUTICAL MANUFACTURING

In the years in which Strong Cobb has manufactured for the trade, our research and production heads have time and again come up with new scientific methods and ideas, the results of which have always been placed FIRST before our customers.

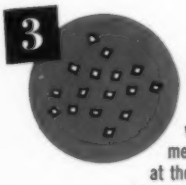
Within the last few years, six manufacturing achievements have been created by Strong Cobb — either FIRST in the drug business or FIRST in the private formula field. Here they are for your inspection.

CELETS

... the sealed-coat type, layered tablet previously extensively covered in Strong Cobb advertising.

CAPTABS

... this capsule-shaped tablet is efficient and economical and provides alternatives for broader product lines.



MULGRANS

... multi-vitamin granules which provide a convenient method for administration, at the same time minimizing objectionable taste features.

MULLAYS

... multiple-layered coated tablets for sustained or delayed action. In the case of incompatibilities, that principle provides protection and stability for a combination of ingredients which could not otherwise be blended.

STAMUL

... stable emulsion type base for liquid vitamin products. Provides a ready means for combining soluble and insoluble materials, the latter being held in suspension, and the base formulated to provide a good shelf life.

JELBASE

... jelly base for palatable cough preparations. Actually a pectin-type jelly which is extremely palatable and very effective in masking the usual bitter taste associated with materials used in cough preparations.

These Strong Cobb FIRSTS may interest you as a possible base for a new product. You are invited to write for further information or samples on them.

NOW!

STRIADS .....a NEW Strong Cobb tablet made in double or triple layers designed to combine incompatible ingredients in one tablet or provide sustained action through different disintegrating times. Available in plain or sugar-coated forms in various sizes and shapes.

"OUR CUSTOMERS HAVE CONFIDENCE IN OUR PERFORMANCE"

PHARMACEUTICAL MANUFACTURERS TO THE TRADE
SINCE 1833

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In Canada: Strong, Cobb of Canada, Ltd., 388 St. Paul Street, W., Montreal
American Chlorophyll Division, Lake Worth, Florida

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New varieties in fragrances are continually being made available because of the almost unlimited variety of materials at the disposal of Givaudan perfumers, whose skill is recognized throughout the perfume world.

Your unusual requirements, as well as your regular needs, can be met because of Givaudan's extensive facilities as the world's largest producer of aromatics. Nowhere will you find such a range of quality materials to select from.

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world's
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Knowledge of consumer acceptance, gained by long experience and continuing studies, enables Givaudan to help you develop fragrances of proven appeal.

Close contact with markets throughout the world enables Givaudan to obtain dependable supplies of rare as well as abundant raw materials. Givaudan sources are established and reliable.

Finest quality of aromatics is made possible through careful selection of materials by expert perfumers throughout manufacturing procedures.

The increasing variety of materials
being made available by Givaudan research
is constantly broadening the
scope of your perfuming skills.

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Use Mallinckrodt

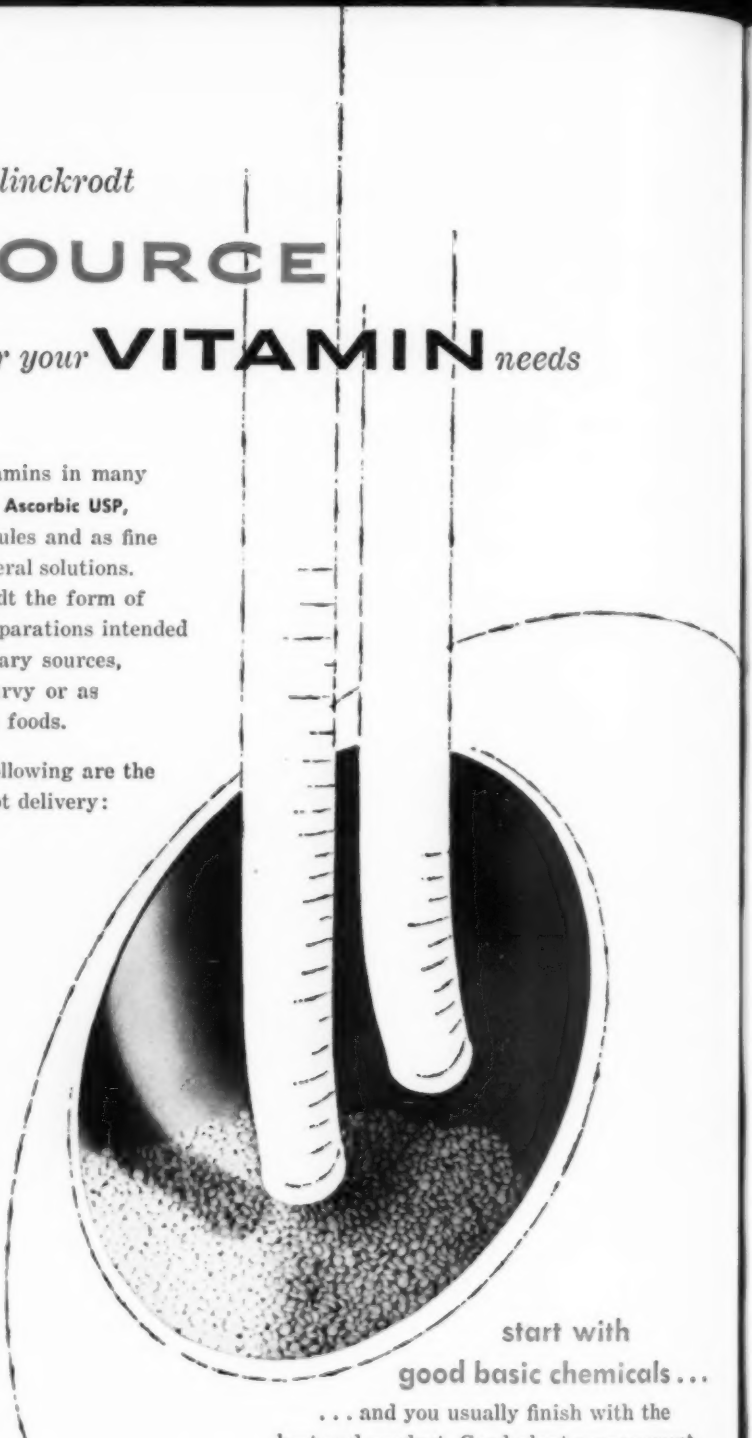
as the SOURCE

for your VITAMIN *needs*

Mallinckrodt supplies a large variety of vitamins in many forms for human and veterinary use. **Acid Ascorbic USP,** for example, is supplied as a powder, as granules and as fine granules. There is a special grade for parenteral solutions. You can count on obtaining from Mallinckrodt the form of **Acid Ascorbic USP** you need, whether you use it in preparations intended for supplementing human and animal dietary sources, for the treatment and prevention of scurvy or as an anti-oxidant in canned and frozen foods.

When you need vitamins, call Mallinckrodt. Following are the Mallinckrodt vitamins available for prompt delivery:

- Thiamine Hydrochloride USP
- Thiamine Hydrochloride USP Special (for Parenteral Solutions)
- Thiamine Mononitrate USP
- Acid Ascorbic USP Powder
- Acid Ascorbic USP Granular
- Acid Ascorbic USP Fine Granular
- Acid Ascorbic USP Special (for Parenteral Solutions)
- Pyridoxine Hydrochloride
- Niacin USP
- Niacinamide USP
- Riboflavin USP
- Vitamin B_{12} Solids (for Oral Preparations)
- Vitamin B_{12} Solids—Soluble (for Oral Preparations)
- Vitamin B_{12} Crystalline, 0.1% Trituration of, with Calcium Phosphate Dibasic
- Vitamin B_{12} Crystalline, 0.1% Trituration of, with Mannitol
- Vitamin B_{12} USP Crystalline
- Calcium Pantothenate Dextrorotatory



start with good basic chemicals . . .

. . . and you usually finish with the best end-product. Good plant management, conscientious operators and the best equipment available sometimes fail to produce the right finished product *unless basic chemicals are right.* You can rely on Mallinckrodt for pure chemicals in many forms. Why not call us on your next order?

Mallinckrodt Chemical Works

Mallinckrodt *Since 1867*

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a rosy future

The pharmaceutical manufacturers are continuing to expand production and research facilities in the belief that the industry is still far from its peak. The rich fruits that have been realized from research over the past two decades together with the rapidly increasing population of this country, which has increased by eleven million in the last five years, has convinced manufacturers that increases can come from at least two directions. The first is the increased amount of presently developed products that will be needed as population continues to increase, and the second is the greater use of drug products which will be used as research turns up still more products to control still more diseases. Added to these reasons in the minds of executives, is the high level of prosperity in this country which makes for a particularly high level of demand for proper medical care.

Many executives in this industry are of the firm opinion that sales volume of pharmaceutical products within ten years will be at least double what it is today not counting any inflationary forces that might bring about higher prices. This is for the reason that they are certain that the many avenues of research now being explored will bring about the existence of many more specific remedies for diseases that are not as yet controllable to a marked extent by any of the products available. They anticipate that much of this gain will be made at the expense of other remedial methods now employed such as surgery, osteopathy, diathermy, etc. After all, there are many in the medical profession itself who predict that surgery is certain to decline over the years as other methods of treatment are discovered. They foresee the day when surgery will be just about restricted to the correction of injuries resulting from accidents.

One has only to consider the changes that have been brought about in the treatment of arthritis by the discovery of cortisone and other steroid hormones to realize where the new volume in pharmaceuticals will come from. Aspirin has been proven to be of real value in the treatment of arthritis as the result of the discovery of the value of the steroid hormones in treating that disease. Another drug, Butazolidin, of an entirely different type has been proven of value in arthritis and opens up still another avenue of approach to treatment of arthritis through the use of drug products. Although some laymen are in disagreement, many doctors prefer treatment with these newer therapeutic agents to treatment at the various spas whose waters were believed to have wonderful curative powers in arthritis cases. Just last month there came to light that the health reservation at Saratoga Springs, supported by New York State was costing the State a half a million dollars a year to maintain. One of the principal reasons for the continuing deficit is the sharp decline in the number of people who go there for the treatments that are offered. It is said that most people frequent the place to follow the horses which run at the Saratoga race track, during the month of August. However, it must be said that this type of treatment as well as treatment by diathermy are far from having been abandoned. One group which make constant use of these methods of treatment are the major league baseball clubs, particularly the Brooklyn Dodgers, for treating ailing arms of pitchers, as well as arms, legs, necks, and backs of all their ailing players.

Aside from gaining volume in the sale of therapeutic agents at the expense of surgery, diathermy, curative baths, etc., the industry should continue to gain at the expense of hospitals maintained for the treatment of special types of ailments. During recent years the discovery of several drug products for the treatment of tuberculosis has caused drastic reduction in the number of tuberculosis patients which must be hospitalized, and it has, in many instances, sharply shortened the hospital stay of others with the disease. A similar situation is developing with regard to many of those suffering from nervous and mental diseases as recently discovered drugs make possible the rather rapid discharge of patients who formerly would have spent many years, and possibly the rest of their lives, in these institutions.

The industry has for future growth a large number of diseases which thus far show little or no favorable reaction from the use of drugs. Naturally, one of the most important of these is cancer which today is treated mainly through the application of surgery and radio-therapy. Successful treatment of various forms of cancer by the use of drugs products is believed to be as certain as the fact that the sun will rise tomorrow. In talking with a surgeon particularly skilled in the surgery of cancer, we learned from him that he did not basically like what he was doing. He had the

(Continued on page 408)

Market research and

Despite all that has been written about the technics of promotion, and all that we think we know concerning its theory and practice, advertising still remains an empiric procedure. Unfortunately, many promotional executives believe that they know all that they should know about advertising—and do not. Worse, some are certain that they know—and do not. It is a wise advertising man who recognizes that there is still much to be learned about promotion—and who has the courage to seek the answers. These answers are not easily discovered. They have to be sought out. They are resolved only with difficulty.

The Battle of the Budgets

Pharmaceutical manufacturers have been pouring increasing amounts of dollars into their advertising. Because of the introduction of many new products and supported by expanding sales volumes, the size of promotional budgets has increased. Increasing competition has also brought an increased demand of promotion. The answer to the problem of promotion is not in mere added dollars of expenditure. Advertisers need to be more businesslike. They must be more critical, more demanding of their dollars and their promotion.

The mere expenditure of money does not improve the character or increase the effectiveness of promotion. Just because management has been "sold" on an increased advertising budget is no reason for spending it. Better to devote more time and effort to developing means for wiser expenditure of moderate but sufficient promotional funds, through creative, qualitative planning and research, than to reckless spending, overexploitation of media and abuse of the physicians' credulity and patience.

There is more to the problem of better, effective pharmaceutical advertising than planning and frugality, however. Advertising is hard to evaluate. A great portion of advertising is purely creative, and ephemeral in nature. It is not easily analyzed. Its achievements and its shortcomings cannot be determined readily. Consequently, advertising is easily criticized and difficult to defend.

Advertising's Amateur Experts

It is an axiom in the advertising field that in almost any company everyone from president to office boy is an expert on advertising. Division heads from Research to Finance are all equally certain that "those guys in Advertising don't know the value of a dollar." Each is sadly convinced that "our advertising stinks," and says "I could do better than that myself."

In the narrower realm of marketing the story is the same. In a recent discussion within a group of the nation's top marketing experts, it was generally agreed that within the major marketing fields of research, product design, packaging, pricing, distribution, trade and public relations and advertising, 56 per cent of these executives felt most qualified to make decisions in the field of advertising. Only one per cent admitted they did not believe they were advertising experts.

The Medical Market

The medical and pharmaceutical market has a number of special characteristics. The persons to whom the promotional effort is addressed and who

pharmaceutical advertising* *Part 1*

by John N. McDonnell, D.Sc.
VICE-PRESIDENT, SCHERING CORPORATION

select the products, are not ordinarily the purchasers. Innovation and substitution and obsolescence of products are extremely rapid. No manufacturer's product has any definite assurance of a future share on the market. For many articles, elasticity of demand is low, and the effects of price competition are extremely ambiguous.

This situation is met through the medium of specialized advertising technics, and by the use of "detailmen" or "professional service representatives," salesmen who seldom or never take an order, but who describe products and maintain good relations with the physician. They strive to keep the latter favorably disposed toward the company and remembering its products when writing prescriptions.

Making Promotion Effective

In the marketing of pharmaceutical specialties, a number of important factors must enter into any effective promotional program. As for the product, these include a careful analysis of its originality and clinical superiority, clinical research support, pricing and packaging, distribution, professional acceptance, market position and sales record, and record of past sales and promotional support.

Of great importance is a study of advertising media, to determine which type is best suited to the product and to the doctor, which clinical approach to employ, the extent of advertising needed, and the format, copy and art best suited to the product.

Equally important but less often studied is an analysis of the prescriber (or consumer) likely to use the product. Instead of merely advertising the product widely and promiscuously, one should determine which types of physicians in practice are most likely to prescribe or use the product, where they are to be found, when is the best time, season or route of approach to them, what is their reaction to this type of product and to the company, and why should they prescribe it? Much of this information is not readily available from his sales statistics, field reports, trade publications, government statistics or other sources. Some of it can be obtained in part from commercial sources. Much of the remainder, however, is either confidential trade data or just not available at all.

The Cost of Promotion

The pharmaceutical advertising and sales executive is frequently asked about the unit costs of promotional contacts, and their relative effectiveness. These are not easy questions to answer. The comparative costs per contact as estimated by one leading pharmaceutical manufacturer showed that detailing costs an average of $7.50 per call, direct mail 33c per call, and medical journal costs (based on actual readership rather than circulation) 7c per call.

In promoting pharmaceutical specialties to the medical profession, relative cost of the different forms or promotion has been well illustrated by taking the round figure of $50,000 as a typical budget for a certain product. In detailmen, this sum would permit eight men to average six calls a day for 250 working days, a total of 12,000 personal calls, figuring $6,250 per man per year for salary and expenses. In direct mail this budget would provide for seven mailings at $50.00 per thousand to 140,000 physicians, a total of one million mailing units.

In medical journals five million reader impressions could be obtained with this budget. This sum would buy 65 to 80 pages at prevailing rates in medical journals of general circulation covering a medical audience of 130,000 to 165,000 readers.

Intensified Promotion

Pharmaceutical manufacturers devoted more than $160 million to the three principal methods of advertising "ethical" pharmaceutical products in 1954. Sixty per cent of this went into detailing, more than a quarter of it to direct mail, and $15 million to medical journal advertising. This represents twice as much for direct mail and journal advertising as was expended in 1951.

The number of direct mail pieces received by the average general practitioner rose to almost 3200 pieces a year, more than twelve each business day in 1954.

While detailing received the majority of the advertising expenditure, recent studies show that on the basis of influencing prescriptions for new products, physicians rated this form of promotion at 54 per cent, while direct mail influenced 27 per cent of physicians, and medical journal advertising 19 per cent.

Naturally no pharmaceutical advertising executive seriously apportions promotional expenditures in accordance with these percentage figures, as individual product marketing problems vary too greatly. One error frequently made in evaluating pharmaceutical advertising, and especially of direct mail, is in making purely subjective evaluations of its effectiveness.

One of the most significant statements made recently with respect to pharmaceutical promotion was,

*Read at the final 1955 meeting of the Pharmaceutical Market Research Group, Hotel Roosevelt, New York, May 25, 1955.

"Never use the costly tool of detailing for any sales operation which can be performed as well or better by the relatively cheaper medium of advertising."

Looking for the Answer

The advertising profession is appalled by the rapidly rising costs of promotion, and by the need for more effective advertising in terms of results attained. If it could be convinced that the cost of advertising could be reduced percentagewise and in dollars through the application of facts learned through research, there would be much greater interest shown in market and advertising research by pharmaceutical advertising executives.

Surprisingly enough, pharmaceutical advertising has never before been so research-minded. It is extremely difficult to evaluate the motives of the physician and the pharmacist, and the impact and effectiveness of the several media employed in pharmaceutical and medical advertising. It is finally recognizing to some degree its need for market research. It is becoming interested in the use of penetrating, constructive research as a means toward developing more effective advertising and marketing. However, it is diffident, fearful because it isn't sure of itself or of this new technic.

Role of Research

Advertising executives in many instances in determining advertising policies depend to a large extent upon their personal experience and judgment rather than upon facts. Some advertising managers recognize the value and importance of research information and avail themselves of it. Unfortunately, others fail to understand the purpose of research and are suspicious of its motives.

It is axiomatic that advertising, "detailing" and selling are the three equally effective prongs of the pharmaceutical "ethical" marketing trident. There are many instances in the pharmaceutical industry where advertising managers and sales executives fail to cooperate in the coordination of their separate marketing activities. Far too frequently, advertising and sales managers actually compete with one another for recognition and prestige, power and budgets, to the detriment of their company's marketing program.

Function of Market Research

In some pharmaceutical companies market research is a function of Sales; in others, a staff function at Management level. This is immaterial if the personalities are in accord and the advertising manager and the research head work together. It is equally important for market research to have the privilege of working for advertising and for the latter to have the authority to request such help. Many market research groups devote most of their time and effort only to sales analysis and the economics of product development.

Advertising managers frequently view their research colleagues with a suspicious eye, fearful that research into the realm of advertising technics and media may be critical rather than constructive. They are reluctant to invite market research assistance for fear of uncomplimentary results being reported to Sales or Management. Market research on the other hand is loathe to offer research assistance to Advertising, preferring to await the occasional request because of temerity or laziness. As a result, Advertising and Market Research miss opportunities for better work and the company suffers.

Market Research too often fails to recognize its limitations, and ventures into activities where it is not competent. Unfortunately, this is too often true when it attempts to develop deductions and conclusions. Market research is a valuable managerial and operating tool, but is by no means an exact science. This is particularly true in advertising.

Unfortunately, the pharmaceutical industry has generally failed to appreciate the fact that tools, no matter how good, are of no value unless put to use. Market Research heads have missed nearly every opportunity to "sell" pharmaceutical advertising executives on the value of research in promotion. Most of the advertising managers' lack of interest and resistance to research aid is due in great part to lack of communication between Research and Advertising, failure on the part of the former to educate advertising concerning the value of research, and the advertising men's innate suspicion that the results of research which he does not understand will be used against him or passed on to Management without his knowledge. A little better understanding and closer working relationship between market research and pharmaceutical advertising executives will surely redound to the benefit of all.

Fortunate indeed is the pharmaceutical house which has its advertising manager, sales manager, and market research head who are given authority in their own clearly defined fields, who know their limitations, and are in complete accord!

There are some advertising managers today who carefully evaluate every phase of their own product and promotion problem. They study every publication which is likely to provide helpful data. Then they turn to the Market Research department of their companies or to other commercial research sources for as much additional information as can be obtained. These men appreciate the role that market research can play in digging out the facts. They are smart enough to recognize the value of this specialized service to them and to their promotion. They use it to help to do a better job.

If this were to be true in all of the pharmaceutical manufacturing industry, medical advertising would be much more effective and doubtless quite different. Advertising executives educated in the practices of yesterday's promotion but who feel that they ought to try newer technics may take an amateurish stab at research, but then forget it and are content to con-

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Industrial Skin Diseases

As part of one of its principal objectives—the promotion of cleanliness—the Association of American Soap & Glycerine Producers is publishing a booklet entitled, The Prevention of Occupational Skin Diseases, which has been prepared for the association by Dr. Louis Schwartz, widely known industrial dermatologist and former Medical Director of the U. S. Public Health Service. According to Dr. Schwartz, "Diseases of the skin are taking a far larger toll of the nation's industrial output, in terms of lost productive time and compensation payments, *than all other occupational diseases* combined. The cost to industry of the average industrial worker hit with a skin disease is: 10 weeks off the job; $100 in compensation payments; and $90 for medical care; totaling far more than $100 million annually."

Recent statistics compiled from a survey of eleven States by the Division of Occupational Health of the Public Health Service reveal that industrial dermatoses annually account for 75.3 per cent of all occupational diseases. In the eleven State area alone, 6,817 cases of skin disorders were reported, as against 2,241 cases of all other occupational diseases.

In the booklet, Dr. Schwartz examines the antibacterial properties, pH concentration and cleansing power of many kinds of available industrial cleaners—solid, liquid, powdered, and superfatted soaps (including a special "indicator" soap that turns bright red in the presence of even minute amounts of TNT); soluble and insoluble scrubbers; synthetic detergents, sulfonated oils, and waterless cleansers. Protective creams and ointments of the three main types—vanishing cream, water-repellent, and solvent-repellent—as well as special types are discussed.

Also discussed in the booklet are: Anatomy and physiology of skin and its appendages; causes of occupational dermatoses; and prevention of occupational dermatoses. Contained in the booklet is a glossary which will enable the average layman to read the book with complete understanding of its text.

The causes of occupational skin diseases are given under five main headings: 1. Mechanical (friction, pressure, injury; 2. Physical (heat, cold, radiation); 3. Plant poisons (several hundred woods and plants; 4. Biological (bacteria, fungi, mites, etc.; and 5. Chemical agents—"primary irritants," such as strong acids or other corrosives; and "sensitizers like TNT or resins that do not cause dermatitis at once but pave the way on further contact.

"The menace of occupational skin diseases to the health and life of America's sixty million or more workers can be radically reduced by the inauguration of adequate plant cleanliness programs, and most skin diseases can be entirely avoided by proper washing procedures, showering and wearing of clean and suitable protective clothing," Dr. Schwartz says. Preventive measures can reduce the great toll taken by

skin diseases in *all* types of industry, according to Dr. Schwartz, who reveals that incidence of industrial dermatitis ranges from a high of 7.5 per cent in the synthetic resin manufacturing industry, to a low of 1.4 per cent for automobile manufacture.

Through its 152 member companies, the association is planning to distribute the booklet to all concerned with health and safety in every type of industry. Individual copies may be obtained from the association at 295 Madison Avenue, New York 17. Bulk quantities will be supplied at cost.

The members of the technical committee of the association which conferred with Dr. Schwartz on the preparation of the booklet are: Edward Randa, Chairman, Armour and Company; Dr. P. G. Bartlett, West Disinfecting Company; H. Goldenberg, Huntington Laboratories; G. H. Packwood, G. H. Packwood Mfg. Co.; L. E. Lee, Sugar Beet Products Company; and J. D. Moore, Pacific Coast Borax Company.

WAVE SETS

by Harry Hilfer

Wave setting preparations have been among the first of the common cosmetic preparations to attain universal use, since they have fulfilled a need which women have felt since hair became their crowning glory. The number of different types of preparations has therefore become legion and though newer types appear with great regularity, the older preparations still retain some of their adherents. The market therefore supports representatives of practically all types.

For the sake of convenience our discussion will be divided into gum preparations and lacquers, since these two classifications encompass practically all the preparations now marketed. The gums are probably the oldest form because they originally were more easily applied and removed. Perhaps the best known of this type is the quince seed mucilage wave set, still in fairly common use. Unfortunately quince seed mucilages are difficult to preserve. However, they have some points of superiority which make them highly desirable. The quince seed itself, since it is a natural product, is subject to variations from batch to batch, and a control must therefore be exercised to assure uniformity of product. In common practice this was accomplished by increasing or decreasing the concentration of the mucilage in the final formula so that the viscosity would be the same. Since the final viscosity is not apparent immediately on preparation of the mucilage, it is best to allow it to stand for a few days before a control is run.

The actual preparation of the mucilage is accomplished in a number of ways. The most common is to steep the seeds in water for about 24 hours and then to strain to separate the seeds from the mucilage. The seeds are then treated with water again, and the straining repeated. The usual quince seed mucilage is made from about 2.5 per cent of seeds—that is 25 lbs. of seeds—treated with 500 lbs. of water and then strained, the seeds treated with a second 500 lbs. of water and again strained. The two aqueous solutions are then mixed to give approximately 1000 lbs. of mucilage. The use of cold water is preferred since the mucilage so made is lighter colored. However, warm water (60° C.) is also used since the steeping process is accelerated by so doing, but the resultant mucilage is somewhat darker.

A more efficient method than straining is to use a centrifuge to separate the seeds from the mucilage. Such treatment, in addition, will also more effectively remove other small bits of debris not easily separated by straining. A final product is diluted to perhaps one per cent on the basis of the weight of the seeds in a good product containing the required amount of adhesiveness and drying to a film which appears to be non-powdery. Many gums, unless they are treated with a proper plasticizer too often form a dust coating on the hair which is not desirable. The addition of perhaps one per cent of glycerine or propylene glycol however often will prevent such a flaking effect.

Karaya is also in fairly common use, as is tragacanth. Karaya, however, has the property of being

easily wetted with alcohol and, on addition to water, the mucilage forms almost instantaneously. Advantage of this property is taken in the preparation of hair waving concentrates which consist of essentially gum karaya in alcohol. The gum concentration may be as high as 30 per cent in these preparations but, on shaking and adding to enough water to lower the gum concentration to 1.5 per cent, requires only a minimum of mixing to form the mucilage ready for use. In this way a karaya suspension of 30 per cent gum and 70 per cent alcohol may be mixed into 20 times its volume of water. Such preparations are therefore in great demand among beauty shop operators and some are sold for home use. The addition of powdered borax to this mixture increases markedly the viscosity and it is therefore often used.

In the second classification the primary representative would be shellac. It was originally used as an alcoholic solution, but eventually was used in conjunction with borax as an aqueous preparation or an hydro alcoholic preparation. More recently it has appeared as the triethanolamine salt in substantially an aqueous solution. The lacquer preparations undoubtedly hold the hair in place more rigidly than do the gums—they further impart an enamel-like sheen which is desirable among professional actresses particularly. The shellac hair sets are also marketed as part of saturated pads for easier application to the hair surface.

With the advent of the aerosols there has been a marked change in the hair waving market, since by use of a propellent the lacquer could be applied with a minimum of fuss. In the use of these lacquers only the outer layer of hair need be treated so the hair is set and the lacquer applied by spraying, the setting staying in place for the required length of time. The first of these preparations were alcoholic solutions of shellac mixed with the propellents in a relatively high pressure can. The preparations themselves were good but unfortunately presented somewhat of a fire hazard because of the relatively large concentrations of absolute alcohol needed in the formula. A lowering of the alcohol concentration and an increase in the non-inflammable propellent was not the answer since the shellac precipitated if the propellent concentration became too great. Polyvinylpyrrolidone which had originally been placed on the market as a synthetic blood plasma ingredient proved to be the best substitute.

P. V. P., as it is generally known, is soluble equally well in absolute alcohol and in water. More important,

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COURTESY HELENA RUBINSTEIN

Cosmetic Development

Cosmetic manufacturing continues to expand for numerous reasons, many of which have to do with the new and improved raw materials which continue to be made available, and many of which have to do with improved methods of packaging, which make for easier application of the products in several instances. Also responsible for the continual growth in cosmetic volume are the usual factors of steadily increasing population, increased levels of income, larger number of women gainfully employed, increased amount of dining out and increased social intercourse, and more widespread distribution of mass produced and mass sold cosmetics through additional outlets such as grocery supermarkets, etc.

Research in the cosmetic industry has been largely of the nature of products based on new type ingredients. This research has come to a great extent from the companies which have developed these new raw materials, although cosmetic manufacturers have conducted much research having to do with the incorporation of these materials in their own products, or having to do with new type products based on these materials, to be added to their lines. Extremely few of the raw materials are the discovery of the cosmetic manufacturers themselves, but rather of chemical manufacturers looking for new outlets for unique chemicals which they can produce.

What the use of these new ingredients has done for the industry is well illustrated by the growth of certain classes in which they have been largely used. The sharp rise in shampoos and other products for the care of the hair is the direct result of newly formulated preparations made possible by new-type ingredients as well as by intensive research in the cosmetic houses to develop greatly improved types of preparations based on proper application of these ingredients. The importance of improved preparations in this one class can be well appreciated when it is realized that sales of shampoos alone have increased 1,026 per cent since 1930. Another huge advance in the classification of cosmetics for hair care is the huge market for home permanent waves which exists today, and which is based entirely on new types of ingredients which were not at all used in this field about ten years ago.

Another product which has risen sharply in acceptance is the deodorant, and here again we have a great improvement in the average product on the market because of new types of active ingredients. Sales of deodorants have increased 732 per cent over 1930. But not only have new types of raw materials helped to bring about sharply increased use of these products, but improved packaging has also shared this responsibility. The polyvinyl squeeze type bottle was probably the first real improvement brought about by packaging in the application of these products. Following this we had the application of aerosol packaging, and now we have the type of package which Bristol-Myers uses to market its deodorant, Ban. This particular package uses a rather large ball in the mouth of the glass container, the product being

COURTESY TUSSY COSMETIQUES

applied by merely rolling the ball over the surface of the skin. This package has been enthusiastically received by many users as it furnishes a quick and sure method of certain application of the deodorant.

Still another product the sales of which have risen sharply is the lipstick. Sales of this product have advanced 361 per cent since 1930. This is due in the main to the development of new types of lipstick which have given the women greater satisfaction. The products are not easier to apply, more lasting in their effect, and capable of being more pleasing to the women who use them, as well to those who see them after they have been applied. These marked improvements in lipsticks has not resulted in any increase in cost to the user, meaning that the buyer is getting more for her money.

These products have chalked up gains far beyond that which would be normally expected if the products just kept up with the increase in disposable income, which in the period since 1930 has increased by 200 per cent. Therefore the gain in these products has been due to improvement in the products themselves as well to improved packaging in some instances.

One of the outstanding types of new ingredients which is just about finding a place in cosmetic preparations is the silicones. These products are being used to varying degrees in protective skin creams and lotions, baby creams and lotions, sunscreen preparations, hair dressings, ointment bases, lip pomade, lipstick bases, and emollient creams. Being clear, colorless fluids which are usually bland or tasteless and innocuous when applied topically on humans, they protect the skin against many types of things which can cause skin damage.

The polyvinyl squeeze bottle as well as the aerosol type of packaging have had a real effect upon the cosmetic industry. The squeeze bottles have proven particularly adaptable to certain types of cosmetics resulting in easier application and lessening of danger from breaking in the case of products which are apt to cause a bottle to slip from the hand. The aerosol type of package has likewise proven most adaptable to a certain group of products, particularly those which can better be sprayed on rather than poured or rubbed on. Thus they should find widespread and continued use in sunscreen preparations, hair lacquers, and many similar products in which a thin film should be applied. However, aerosol packaging has also become popular in shaving creams, and other products.

Further expansion in cosmetic volume will probably come about in the future as products are developed which have a definite therapeutic effect as well as a cosmetic effect when they are used. Many products of this type are already on the market, but extensive development in this direction should come about in the not-too-distant future. Just as some cosmetic preparations are based upon hormones and vitamins, and tooth pastes contain antiseptics (including penicillin), antienzyme chemicals, flourides, and many other remedial agents, many more types of therapeutic cosmetics should be developed.

Furthermore, a field which should receive major attention from cosmetic manufacturers in the years to come is that of geriatric cosmetics. These are cosmetics which are particularly designed for use by the steadily increasing group of the population over 65 years of age. Such a group of cosmetics would quite naturally be largely of the therapeutic cosmetic type as the older people would need replenishment of many of the natural elements which decrease in the body as age advances. This specialized cosmetic group of products will cause quite a change in the attitude of the cosmetic manufacturers who produce them especially in matter of merchandising technique. Cooperation with the medical profession will be essential to the success of such products, and much clinical testing—such as is conducted by the pharmaceutical manufacturers—will be necessary before the products are marketed. This clinical testing will involve close contacts on the part of the manufacturers with hospitals, and research centers of medical colleges throughout the country. Important also will be publication of clinical reports in medical journals.

But the geriatric field is not the only one in which

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Non-Oily Creams

by Joseph Kalish, Ph.D.

The introduction of fatty acid monoglycerides revolutionized one field of cosmetic formulation—the so-called vanishing creams—which embraces the whole group of solid creams containing little or no oils. Originally, these consisted of stearic acid partially neutralized with an alkali, the result being a white or pearly preparation which when rubbed into the skin left a virtually invisible film. Better control of consistency of the preparation and easier manufacturing procedures became possible with the introduction of triethanolamine as a mild organic base, and this compound has been followed by others related to it. In all of these instances, fundamentals of formulation remained the same—part of the fatty acid was neutralized to form a surface active soap, which emulsified the free acid and other fatty substances to form the cream. The proportion of fatty acid to soap may vary from five to one down to almost one to one, the properties of the final cream depending upon this proportion and upon the nature of the soap.

All along, modifiers have been included in both the aqueous and the oil phases to alter and improve the physical properties of the cream as well as its effects on the skin. Substances like lanolin, fatty alcohols, mineral and vegetable oils all serve their special purposes. Glycerin, sorbitol, propylene glycol and other glycols are useful as humectants to retard evaporation of water from the cream and also have a pleasant effect upon the skin surface. Gums are included in some preparations: they are seldom needed to improve the stability of a well-formulated cream, but they do impart a pleasant "feel" to the skin.

Glyceryl monostearate, from its chemical structure, contains a portion that is soluble in water—unesterified glyceryl radical—and an oil-soluble portion—the hydrocarbon part of the fatty acid molecule—and this makes the molecule potentially surface active. The balance is such, however, that the molecule would tend to stabilize water-in-oil emulsions. In combination with an oil-in-water emulsifying agent, the monoglyceride forms a system that has proven to be immensely valuable in cosmetic emulsions. Actually, instead of free fatty acid, as in the older non-oily creams, the monoglyceride gives body to the cream. More important is the flexibility in the choice of the primary emulsifier that is now possible. As against soaps that were sensitive to acid addition, the emulsifiers now can include a large selection of anionic, cationic and non-ionic agents so that the range for stable creams has been greatly extended. This range now includes not only a larger spread of pH values, but it also includes additions that would immediately have destroyed the older creams.

A point not to be overlooked is that glyceryl monostearate in the emulsion has such high water-holding capacity that in the first place the proportion of humectant may be reduced if it is thought desirable to do so; secondly, the monoglyceride is in itself an effective skin softener and apparent emollient and leaves the skin feeling soft.

COURTESY HARRIET HUBBARD AYER

More recently, other agents to provide "body" in emulsified creams have come into use. These include modifications of the chemical structure to change water and oil solubility ratios of opposite ends of the molecule and to improve stability. Examples are the polyoxyethylene mono- and di-fatty acid esters and the polyoxyethylene fatty alcohol ethers. In these compounds, however, where the solubility ratios are correct, it is sometimes possible to make a cream without using a primary emulsifier.

As for the non-oily creams themselves, their use has extended far beyond the original vanishing cream. In the first place, they must be formulated so that when rubbed on the skin they seem neither too wet nor too oily. Enough lubricant, mineral oil for example, should be present to facilitate spreading of the cream; the total balance should be such that, as in lotions, phase breaking or reversal does not result in a wet feeling. Cetyl alcohol is a useful fatty alcohol additive in small amounts to impart a dull matte effect and in somewhat larger proportions it functions as an emulsion stabilizer. The final result is a preparation suitable, with little modification, for use as a non-pigmented powder base, a brushless shaving cream, or a hand cream.

	Vanishing Creams[1]						
	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7
Stearic acid	40.0	32.6	40.0	21.0	40.0	50.0	32.6
Lanolin	...	...	4.5	4.5	20.0	9.0	...
Mineral oil	...	...	...	...	...	...	3.6
Cetyl alcohol	...	...	...	5.3	...	...	...
Carbowax 4000	10.0	3.6	5.3	...	...	...	...
Borax	...	1.0	...	...	...	...	1.0
Triethanolamine	2.7	1.3	2.7	1.9	2.7	2.7	1.3
Propylene glycol	18.0	6.0	15.0	15.0	18.0	18.0	6.0
Water	120.0	120.0	120.0	120.0	120.0	120.0	120.0

Carbowax 4000[2] is polyethylene glycol with an average molecular weight of 4000.

Melt the water-insoluble ingredients along with the Carbowax at 70° C. Dissolve the triethanolamine and the borax, where used, in the water and heat the solution to 70° C. Add the fatty acid melt to the aqueous solution while stirring and continue stirring until a smooth mixture results. Stir in the propylene glycol to which required perfume has been added at 50°. Stir occasionally until the cream reaches room temperature and then stir gently after the cream has been allowed to stand overnight. These creams become pearly on standing.

	Facial Cream[1] No. 318
Stearic acid	15.0
Isopropyl palmitate	1.0
Arlacel 60	2.0
Tween 60	1.5
Sorbitol	3.0
Water	77.5
	Hand Cream No. 320
Stearic acid	10.0
Arlacel 80	1.0
Arlacel 60	5.2
Tween 60	2.8
Water	81.0

Arlacel 60[1] is sorbitan monostearate.

Arlacel 80[1] is sorbitan monooleate.

Tween 60[1] is polyoxyethylene sorbitan monostearate.

Both of these formulas may be compounded by melting all of the ingredients together at 85° C. and stirring until cold, perfume being added at 50° C. The proper amount of a suitable preservative should be added.

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NAIL POLISHES

by William R. Keithler

The care and beauty of the fingernails plays a very important role in feminine fashions, and also, to a somewhat lesser extent, in men's fashions. Millions of bottles of the various nail preparations are sold annually to both independent consumers, and to beauty establishments. The majority of women treat their own nails and apply the beauty preparations, while the male population seldom do anything more for themselves than trim their nails. Some of them do, however, make frequent trips to the barber shop for a manicure. All in all, attractive fingernails are an asset to both men and women.

Preceding a discussion of the formulation of nail preparations, it is probably well to touch briefly upon the anatomy of the fingernails. These portions of the anatomy are transparent coverings on the tips of the fingers. They are concave on one side, and convex on the other. The primary function of these coverings is to afford a certain amount of protection against abuse. The nails, although actually colorless, appear pink in normal, healthy individuals. This coloring is due to the circulation of blood through the tissues beneath them. In cases where there is faulty circulation of the blood, or general poor health, the nails lose their characteristic pink appearance.

The nail is chiefly composed of keratin. However, keratin from various sources differs rather markedly in its composition. As a result of this variation, it has more or less been decided that keratin is not a single compound, but a group of albuminoids.[1] Keratin has been analyzed by several investigators. Silver and Chiego[2] give the following analysis of various keratins: Hydrogen 6.59 per cent; carbon 48.75 per cent; sulfur 3.92 per cent; nitrogen 16.55 per cent; and traces of calcium, sodium, magnesium, potassium, and iron.

The nail does not have a direct blood supply, but is connected to the vessels beneath it, in what is termed the nail bed. The nail itself lies upon this bed and grows out of the cuticle, a horny layer of skin surrounding the nail on the sides and base. At the base of each individual nail is a half moon, or arc, termed lunula. It is not visible in all nails, but, nonetheless, is present. Within the lunula is the matrix, out of which the nail grows.

Nail growth varies in the individual and with age. Most nails grow at the approximate rate of about 1/32nd of an inch per week. There are no preparations that will influence or otherwise speed or slow this growth. The only way to inhibit the growth of the nail is complete destruction of the matrix, which will result in a permanent inhibition of growth.

Manicure preparations have increased in use within the last few years, not only in the beauty and barber shops, but also in the home. Many products come under the heading of manicure preparations, the most important and best seller being nail enamel, and of course, enamel remover. The other, less important

1. Cosmetics and Dermatitis, Schwartz and Peck, P. B. Hoeber Inc. P. 22
2. Silver and Chiego, J. Invest. Dermat. 2:371, 1939.

products are nail creams, cuticle removers and softeners, nail bleaches, and tints. Due to the importance of nail enamel, it follows that this product should be discussed first.

Nail enamel is a difficult product to manufacture. Since volatile solvents are used in its manufacture, there is always the possibility of fire hazard. Also, expensive equipment is needed to prepare a quality, salable product. For these reasons, it is recommended that nail enamels be purchased ready packaged, or at least, previously prepared in bulk, from a reputable private label house. In certain cities and/or localities, the manufacture of such inflammable materials as nail enamel is prohibited by law, so that it is necessary to inquire of the authorities, whether or not the manufacture of such a product in your neighborhood is a violation of such a law.

The function of a nail enamel is to form a glossy film over the exposed portion of the nail. Usually this film is brightly colored by the use of certified dyes and pigments. Usually, the basic film forming ingredient is nitrocellulose of about ½ second viscosity. However, this nitrocellulose is not suitable if used alone, as the dried film is very brittle, and lacks sufficient gloss. For this reason, a plasticizer is added, and the properties of the applied film bear a direct relationship with the plasticizer used. Dibutyl phthalate, triethyl citrate, dimethyl phthlate, camphor, tricresyl phosphate, dioctyl adipate, and tetrahydrofurfuryl oleate are the more common plasticizers used, and all have the tendency to impart a flexibility to the film and assist in proper adhesion.

Probably the most important part of a nail enamel are the resins used to improve lustre and adhesion. These are a necessity in present day formulations. The majority of the newer nail enamels contain modified resins, such as alkyd, sulfonamide-formaldehyde, polystyrene, and polyvinyl resins. Some of them contain damar type resins and natural gums, but the type of resin chosen for inclusion in the formulation is highly dependent upon a number of important features. The choice of the resin must be governed by its compatibility with the balance of the formulation, nitrocellulose in particular; its flexibility, its adhesiveness, gloss, and compatibility with solvents; its color, hardness, and very important, its effect upon the nails or cuticle. The success or failure of a nail enamel might well rest upon the proper choice of a resin.

The next important phase of nail enamel manufacture is the inclusion of solvents which are the medium in which the resins, colors, and plasticizers are applied. The most common diluents used are ethyl acetate, butyl acetate, toluol, butanol, ethanol, acetone, carbitol, methyl cellosolve, and solvent naphthas. Many nail enamels containing improper proportions of solvents tend to dry too slowly or be difficult to apply and dry to a tacky finish. It is important to choose the proper solvent or solvents, as the case may

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Industrial analytical record keeping

by George M. Naimark, Ph.D.
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All of us are aware of—and enjoy joking about—the voluminous amount of paper work that typifies the operation of the modern business enterprise. Admittedly much of this paper work has the legitimate function of recording the various aspects of business activity. On the other hand, a significant percentage of this record-keeping operation is inefficient, ill-conceived, and incapable of justifying the cost of its maintenance.

Because the cost of a record-keeping system is never separated from the function it accompanies, it is usually not subjected to the searching inquisitiveness of the cost accountant or of management. Since these costs do not show up as individual items on "profit and loss" statements, requests for justification are not frequent. This lack of scrutiny from "on high" helps to isolate the inefficient record system from the battle for "survival of the fittest," and many weak, ineffectual, expensive systems survive.

Generally speaking, unless a system is terribly poor, supervisory and operating personnel do not question its cost either. Some of the basic reasons for this include the following:

(1) The ever-present time limitation makes informal systems and procedures analysis difficult.
(2) The personnel most concerned with the day-by-day operation of a system are often too close to it to be aware of its deficiencies.
(3) Operating personnel become familiar with a poor system and make it work fairly well, anyway. To all intents and purposes the system appears to serve its purpose without crying out for revision.

We have been speaking of inefficient systems in general terms. Specifically, what are some of the attributes of poor paper-work systems? How does one determine whether a record system is good or bad, or somewhere-in-between? Let's briefly mention some of the characteristics that are less than perfect.

(1) A system requires revision if it is built around the memory, personality or ability of one or more persons. Operations of this type are obviously over-dependent upon specific individuals, and chaos frequently results when these people are not available. Personnel in such situations often find themselves "frozen" in a particular job because its successful functioning is dependent upon them. Such dependence can, of course, act to limit the advancement of individuals at all corporate levels.
(2) A system requires revision if it embraces the compilation and dissemination of reports and communications no longer needed badly enough to justify the cost of their preparation. It sometimes happens that a requested periodic report lingers beyond the time originally intended, and its cessation would cause no great grief. Parenthetically, it's usually inadvisable to ask recipients of reports whether they mind if so-and-so report is no longer prepared. The inevitable answer is "yes, the report is a necessity and must not be discontinued." A much fairer approach involves the design of a controlled experiment that works about as follows: continue to prepare the report as in the past, but do not disseminate the usual copies. Instead, throw them into the bottom drawer of your desk and go about your business. If someone calls to tell

you that they failed to receive a copy, apologize, blame it on the "mail girl," and send them one! After a reasonable period of time a *realistic* appraisal of the value of the particular communication will be possible.

Another approach to this problem appears effective but requires more courage than I have as yet been able to muster. In this case, the report *is* distributed, but all pages after the fourth are carefully glued together. The reaction to this method is usually subject to unequivocal evaluation. Unfortunately, however, it is not quite as easy to blame this procedure on the "mail girl."

(3) A system requires revision if it is not as automatic as possible and is dependent upon excessive supervision. A properly designed system uses no more supervisory time than is absolutely necessary.

(4) A system is less than perfect if excessive time is required for the entry of data.

(5) A system requires revision if much potentially valuable information goes unused because the system does not readily yield this information. If extraction of data is time-consuming and aggravating, such information generally goes unused. Actually, the trends and patterns that become discernible from the aggregation of data may be potentially more significant than the individual segments. In such an instance, the whole can be greater than the sum of its parts. (The value of a system which readily *yields* data will be touched on again later in our discussion.)

(6) A system requires revision or elimination if it duplicates, wholly or partially, another one elsewhere in the organization. The technic of combining systems is often extremely helpful in paper-work simplification.

We have mentioned briefly six common record-keeping faults. Although this listing is not exhaustive, it hits some of the "low spots" common to many systems.

It is worth taking the time at this point to examine the past and present operation of a specific industrial analytical laboratory record-keeping system—in this case, devoted to the quality control function in a pharmaceutical company.

Case Study: Before

The pharmaceutical house in question is a so-called "private formula" company manufacturing pharmaceuticals of every conceivable type and dosage-form for organizations who eventually market them to consumers under their own labels. This is the typical "job-shop" type of operation which involves the processing of many different orders simultaneously. Time-pressure in this sort of business is the rule rather than the exception and, as a result, every phase of the

IDENTIFICATION CARD

CODE Standard Formula LOT NO. SF(C.C.T.H.)

CUSTOMER Hexavitamin Tablets USP CC DATE ISSUED 1,001,000

PRODUCT QUANTITY

5500units Vitamin A Stabilized(200,000upg) 5,505.5million units

440units Viosterol in Oil USP 440.4million units

2.3mg Thiamine Chloride USP Fo 2,302.3grams

3.3mg Riboflavin USP Fo (RS) 3303.3grams

21mg Niacinamide USP Fo 165 Sm 209gr

85.5mg Ascorbic Acid USP Fo 10% 855gr

.07gr Citric Acid USP Fo 10% 70gr

NOT FOR MANUFACTURING USE

500 tablets to fit a 12oz amber plain bottle

For labeled potencies see card sent out 7/5/51

THIS CARD MUST BE KEPT WITH JOB AT ALL TIMES UNTIL PACKAGED FOR SHIPMENT.

Fig. 1

Biochemical Laboratory Assay Record

Customer STANDARD FORMULA Lot No. 1234

Product HEXAVITAMIN TABLETS USP CC Code SF(CCTH)

Ingredient	Standard for Product	Assays by Dates PLAIN 4/1/54	SUG-CT 4/5/54	COATED 5/1/54	
VITAMIN A	5000M	5200	5150	5220	
VITAMIN B_1	2 mg	2.15	2.20	2.10	
VITAMIN B_2	3mg	3.15	3.13	3.20	
NIACINAMIDE	20mg	21.0	21.5	21.0	
ASCORBIC ACID	75mg	78.8	76.6	77.0	SENT CERT OF ANALYSIS TO CUSTOMER 5/6/54
		OK FOR SUG-CT 4/5/54	OK FOR FINAL COATING 4/9/54	RELEASE 5/4/54	

SENT TO WARF FOR VIT D ASSAY. RESULT 400M/TAB

Fig. 2

STANDARD FORMULA PLAIN

Biochemical Laboratory

WORK SHEET

VITAMIN A Lot No. 1234

U. 5500 M/TAB Method 5000M Date 4/1/54

Analytical data:

(ASSAY DATA)

Remarks: OK

Results 5200M/TAB

By CT

Date 4/3/54

4/5/54

Fig. 3

Standard Formula SF(G.C.T.)

Hexavitamin Tablets USP CC 1,001,

5500units Vitamin A Stabilized(200,000upg)
5,505.5million units

44.0units Viosterol in Oil USP
44.044million units

2.3mg Thiamine Chloride USP Po 2,302.3grams

3.3mg Riboflavin USP Po (BS) 3303.3grams

21mg Niacinamide USP Po 66 5ms 209gr

85.5mg Ascorbic Acid USP Po 1821 413gr

.07gr Citric Acid USP Po 105 70gr

Filler q.s.

13/32"dia semi-deep

500 tablets to fit a 12cm amber blake bottle

For labeled potencies see card sent out 7/5/51

Fig. 4

Fig. 5

operation must be judged in terms of this all-powerful parameter. With this brief background, let's review the original record-keeping aspects of this company's control function.

Production of each batch of merchandise was started by printing a manufacturing or batch card by the "Ditto" process indicating customer, product type, lot number, code, product ingredients and potencies, manufacturing instructions, precautions and specifications. This card accompanies the job at all times in its movement through the plant. An exact duplicate of the manufacturing card was "Ditto" printed on another card (coincident with the printing of the manufacturing card) (Fig. 1) and was sent to the control laboratory where it awaited eventual arrival of the manufacturing sample for assay purposes. When the sample arrived for assay, a manila folder was made out with the necessary identifying information (customer, lot number and code) and date of receipt of the sample in the laboratory. An assay record card which summarized all of the laboratory data was also started at this time (Fig. 2). This card also had entered upon it: customer, lot number, type of product, code, constituents requiring assay, label claim for each constituent, stage of production, and date of receipt of sample. Finally, one "work sheet" was made out for each component requiring assay with the following information entered on each sheet: customer, stage of production, lot number, date, component to be assayed, manufacturing coverage and label claim (Fig. 3). The work sheet served as a notification to the analyst that an assay was to be run and then served as a report form upon the completion of the laboratory work. These work sheets and the appropriate samples were then delivered to the analysts. While the laboratory work was being done the assay record card was filed in the manila folder in the control clerk's "in process" file.

When the assay work was finished the pertinent data were entered by the analyst on the work sheet and in the permanent laboratory notebook, and the work sheet was returned to the supervisor. If the analytical work proved satisfactory, the data would be entered on the assay record card by the control clerk. Upon satisfactory completion of all assay work the product was released for further processing or

(Continued on page 390)

BIOCHEMICAL LABORATORY
WORK SHEET

Customer Lot No.

Stability

STAGE	INCOMING MIX	PLAIN 1st HALF	PLAIN 2nd HALF	OILED	SUB COATED	FINISHED	O. S.	MISC.
DATE RECEIVED		4/1/54						

Label Potency 5000 M/TABLET

Analytical Data

(ASSAY DATA)

Result 5200 M/TAB.

Analyst C.T. Date 4/3/54

Assay Notes

DISPOSITION	O. K.	RECHECK	RESAMPLE	O. S.	REJECT	HOLD		
DATE	4/3/54							

Remarks Initials

Punch Card Entry

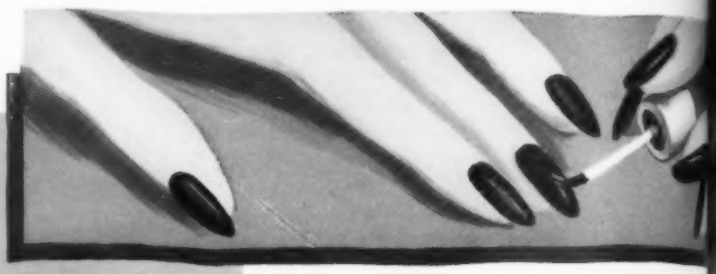
Packaging and Selling

Having introduced the "Spasaver" bottle several years ago, the Sharp & Dohme division of Merck & Co. has now increased the use of this new bottle design for capsule and tablet preparations. The company has recently been reducing its liquid pharmaceutical products and changing over to "dry line" items. In order to enhance the shelf appeal of the individual products, Sharp & Dohme has designed new labels and cartons, with three sizes of wrap-around labels which will handle the entire line of tablet and capsule products.

As the illustration shows, six of the Spasaver bottles can now fit in the space originally taken up by four old-style bottles. The new labels provide more white space and permit larger lettering of the product name for easier identification on the shelf. The name will be printed on the front, side and top of all packages and cartons, permitting greater freedom in shelf arrangement and display, so that the name will always be visible.

The company, through the cooperation of the T. C. Wheaton Glass Co., has developed nine bottle sizes for 150 current product formulations and new tablet and capsule products. The nine sizes are sub-divided into three groups with standard length and width, varying in height. Bottle caps are of three standard sizes which may be adapted to both screw cap and snap cap with aluminum seal. All the bottles have a large neck and mouth for ease of filling and patient use.

These lovely eyes need your product to add to their beauty, and sparkle, but first they must see your product.



These long tapered fingers need your product to keep their smoothness and well groomed look, but first they must point to your product.

This charming mouth needs your product to enhance it's beauty, but first it must ask for your product.

Briefly, that's the story of H-A cosmeticware —efficient, handsome packages that make looking become requests.

HAZEL-ATLAS GLASS COMPANY

Wheeling, West Virginia

There's a PLAX Package for products that need the SOFT touch

Soft, warm feel of the Plax bottle makes it ideal for products that must be used with care and delicacy. The surface can be smooth, pebbled, frosted and embossed in almost any design. Choice of colors and shape is almost unlimited. You can select the best dispensing method for your product from more than 50 different fitments — spray, drop-by-drop, direct application or controlled pouring. What's more, lightweight Plax bottles can save you hundreds of thousands of dollars in shipping costs. Consult Plax for the best in convenience packaging.

PLAX CORPORATION

P. O. Box 1019, HARTFORD, CONNECTICUT

IN CANADA: Plax Canada, Ltd., Montreal and Toronto

In plastic bottle packaging, only Plax offers continuous research, complete design service, and long experience.

Stop the Eye...Start the Sale...

You've just made a sale. Her eye was caught by *your* product in its distinctive *blue* bottle and she's going to buy. That's not strange. Maryland Blue is a powerful salesman. It stops the eye in the store . . . invites use in window and counter displays . . . acts as a constant reminder in the home. It imparts to your product the integrity and quality that has been associated with blue through the centuries.

See for yourself why leading firms utilize Maryland Blue's rich color as an advertising, merchandising, and selling tool. Write for samples today. No obligation, of course.

MARYLAND GLASS CORPORATION, Baltimore 30, Maryland.

Pack to attract

in Ⓜ *Maryland Blue*

Also available in clear glass

Printing Inks and Packaging

by Frank S. Child

Results of soap test. Ink sample, left, bleeds onto soap and is not acceptable. Right sample shows proper stability.

Selecting the proper container for a new cosmetic or pharmaceutical preparation is of great importance to the ultimate success of the product. There are many decisions to be made—shape of the bottle, size, design, color, construction, label, choice of printing ink. Indeed, there are so many factors to consider that these companies very often overlook the importance of choosing the correct ink for the label. This could mean the difference between a highly troublesome package and a faultless one. It sometimes happens that a firm will be all set to place its product on the market, or will already have done so, only to find that the ink "bleeds" when the cosmetic or pharmaceutical runs down the side.

This ink problem is also extremely important in sample packages, such as those one-application creams packed in heat-sealed cellophane or foil envelopes. Since there is only a thin layer of film separating the product from the printing ink, the cosmetic and pharmaceutical people must select an ink which will not impart any odor to their preparation. When the consumer tears off a corner of the envelope and squeezes the contents out, there must be absolutely no reaction between the product and the ink, for they are very likely to contact each other.

Although the relationship between the ink and product is not as close in a glass bottle or plastic squeeze bottle, these problems are still likely to appear.

The firms in this industry could greatly reduce the chance of error in ink selection if they would tell the printing ink manufacturer what kind of product they intend to label, or if they would present a sample of the product, when they submit their order. Moreover, they would be surprised to learn how many special services and tests the ink maker provides at no extra charge.

There is much more to consider about an ink than just the matching shade; the labels must stand up under all conditions of intended use. How does the ink manufacturer provide for the lasting quality of these labels?

First of all, it is standard procedure for him to test each batch of ink for three factors: color match, non-rub, and permanency. The first test, color, is obviously to make sure that the new ink is the identical shade of the sample. The non-rub characteristic is important in all types of packaging because cartons are packed close together in shipping cases and are transported in jiggling trucks or baggage cars. When the cartons bounce around, or when the retailer puts them on his shelves, the labels are apt to be rubbed against each other. The ink must be able to withstand this friction.

Color permanency is equally as important as the other two, especially when the products are displayed in a strong light. If the label fades in a relatively short time, it gives the appearance that the product is old and has been standing on the shelf a long time.

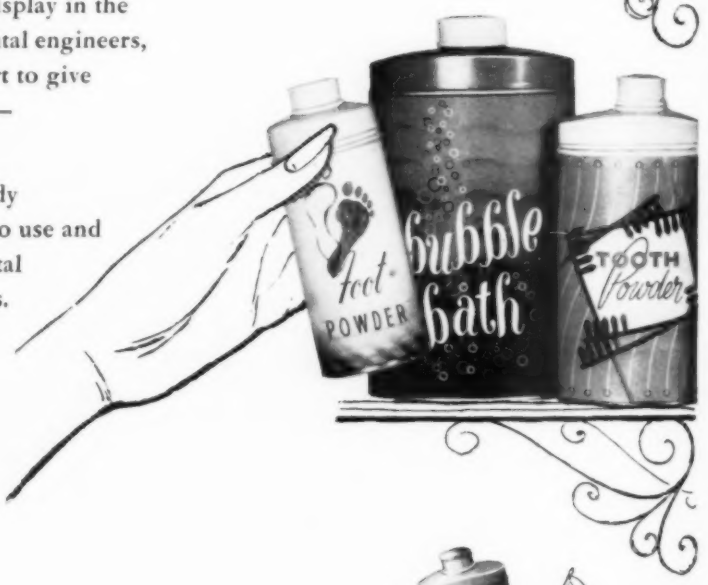
Laboratory technician operating fadeometer at Interchemical Corp., Printing Ink Division, to test permanency of ink samples.

Continental gives personal packages

Your Personal touch

We're well aware of the place of honor that proprietary products hold in every woman's home. We know, too, how some packages wear out their welcome after weeks or months of display in the bathroom or boudoir. That's why Continental engineers, designers and lithographers spare no effort to give proprietary packages your personal touch—one that continues to please.

Once completed, these containers are sturdy protectors of fragrance and texture, a joy to use and a pleasure to look at. You'll find Continental service, too, is tailor-made to fit your plans. From deliveries on down the line—very personally yours.



Our Fiftieth Year of Tailor-Made Packaging

CONTINENTAL CAN COMPANY

EASTERN DIVISION: 100 E. 42nd St., New York 17
CENTRAL DIVISION: 135 So. La Salle St., Chicago 3
PACIFIC DIVISION: Russ Building, San Francisco 4

In running the permanency test, the ink manufacturer uses an instrument called the fadeometer. Through light equivalents set up by the United States Bureau of Standards at Washington (see accompanying table) the operator can expose the sample of ink to the fadeometer for six hours, for example, which would be the same as 7.5 days of sunlight in September.

Fadeometer and Sunlight Equivalents for Various Months of Year

Fadeometer Exposure Hours	June July August	September April May	October November March	December January February
1	0.42 days	1.26 days	2.5 days	7.5 days
2.33	1.0 days	3.0 days	6.0 days	18.0 days
6	2.5 days	7.5 days	15.0 days	45.0 days
12	5.0 days	15.0 days	30.0 days	90.0 days
24	10.0 days	30.0 days	60.0 days	180.0 days
48	20.0 days	60.0 days	120.0 days	360.0 days
96	40.0 days	120.0 days	240.0 days	720.0 days
144	60.0 days	180.0 days	360.0 daós	1080.0 days

Based on data determined by the United States Bureau of Standards at Washington. Six sunlight hours (9AM to 3PM) is considered one day.

Another necessary factor in ink-making is knowing what the ink is going to be used for. Naturally, there is a great deal of secrecy, especially in the cosmetic business, because cosmetic houses are continually competing with each other to introduce new products and establish them in the retail market before they are imitated. They are understandably hesitant about divulging any product information.

However, suppose a company orders a blue ink for a special cosmetic cream preparation which contains a new ingredient. The ink maker knows only that the ink must be blue and that it may be used for a cosmetic label, judging from the name of the company ordering it. Under these circumstances, he may devise an ink, for example, that will be resistant to alcohol, since this is a common ingredient in cosmetics.

As a specific example of what one ink maker would do in this case, Interchemical Corporation, Printing Ink Division, state that they refer to their files and review other inks they formulated for different cosmetic firms. The company then makes up a new ink based on what they have done for other firms in that particular field.

If IPI knows the name of the cosmetic or pharmaceutical preparation, they will buy it in a store and make their own tests. This would be impossible, of course, if the product is a new one and has not yet been introduced.

When the ink manufacturer has an actual sample of the new product, IPI automatically makes the appropriate tests to determine how well the ink and the sample will stand up together under the actual conditions of use.

In the case of a bar of soap, the standard procedure is to cut the bar in half lengthwise, sandwich a proof of the ink in between the two halves, and tie them together firmly. This is then placed in a desiccator which has water in the bottom instead of the usual drying agent. After the soap has remained in the airtight container for some time, it begins to sweat. If the ink stains the soap, the formula must be changed until no more bleeding takes place.

The same procedure is followed if the product is a cream. This is smeared on the ink proof and placed in the same vessel to promote sweating.

This method requires considerable time. The ink should be dried for 24 hours prior to the test, for accurate results, and should remain inside the desiccator for 48 hours or more.

Another test is to pour some of the product, if it is a liquid, in a beaker and insert a proof of the ink in the solution for 12 hours. At the end of that time, the ink maker observes the liquid to see if it has become colored by the ink, and then checks the proof itself for streaks.

Those products which are heat-sealed within films of cellophane require a very special kind of ink. Because they are subjected to considerable heat, the pigments within the ink must be chosen with great care, and all waxes and varnishes having low melting points should be omitted.

A variation of this occurs when the product (like

(*Continued on page 422*)

No one makes a finer Unit-Package—and no one makes a less expensive Unit-Package than Ivers-Lee.

Whatever your prime requirement is—lowest cost or finest quality—there is an I-L Unit-Package that will exactly answer your needs.

Tell your I-L Packaging Specialist your problem and let *him* work it out for you to your complete satisfaction. Phone or write today—no obligation to you, of course.

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215 CENTRAL AVENUE NEWARK, NEW JERSEY

* CREATORS OF A THOUSAND AND ONE DIFFERENT TYPES OF UNIT-PACKAGES for tablets, capsules, triturates, powders, liquids, creams and unusual products during 35 years of Packaging Service.

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for Quality AND *for Price*

YOU CAN'T BEAT

**IVERS·LEE*

Appetite appeal for food supplement packages

by Alan Berni

PRESIDENT, ALAN BERNI & ASSOCIATES, INC.

Despite the popular recognition and acceptance of vitamins as vital food supplements most vitamin manufacturers persist in presenting their products in negative, non-selling packages.

However, one company, Schiff Bio Food Products, has broken sharply with precedent and is enjoying greater consumer demand by using packages with a decided appetite appeal.

When we undertook the packaging project for Schiff we determined to capitalize on the fact that the V-Complette Vitamins are natural vitamins and minerals. For this line we used three sizes of a good quality stock bottle: Small and medium are rectangular, and the large economy size is round.

The novel and revolutionary appetite appeal has been achieved through the use of a glossy white label which features in natural colors and striking design the vegetables, fruits, berries, grains, fish and yeast—sources of these natural vitamins.

The product name, V-Complette, appears on a large green panel on the upper central portion of the face of the label, and boldy identifies the tablets as natural vitamins and natural minerals with organic iron plus B_{12}. A small version of this panel at the bottom of the label bears the Schiff logotype. Between these two panels is a brief paragraph explaining the advantages of the new, improved formula.

Copy on the rear side of the label has been sharply edited and arranged to provide swift, accurate reading of such information as product analysis, ingredients and directions for using.

This new concept of vitamin packaging is certainly timely because (1) the public has been educated to regard vitamins not as a medicine but as essentials to adequate and complete nutrition and (2) because the public associates vitamins with food.

Our idea in engineering and developing such packaging was to sell the customer on the desirability of natural vitamins, particularly of V-Complette Vitamin Tablets.

The qualities of the V-Complette brand is forcefully conveyed to the shopper by the appetite-appealing illustration and not the printed word alone. It has been our feeling that interpretive illustration has as vital a role in the successful marketing of food supplements as it has foods.

This fresh, distinctive packaging also represents definite economical advantages for the manufacturer It permits the use of stock bottles. Because the label is a basic design which may be used for the entire line of V-Complette Vitamins, the art work and over-all production costs have been reduced to a minimum.

Fast Facts About genetron®

...the Right Propellant

"Genetron" aerosol propellants have long been the first choice of many leading aerosol fillers and marketers and the number is increasing daily. Now, with General Chemical's expanded line, an even greater variety of products can profit from the growing demand for the conveniences of "push-button living" which aerosols make possible.

"Genetron" propellants are ideally suited for formulating a wide range of aerosols . . . household, drug, cosmetic, agricultural, industrial and many others. Offering optimum vapor pressures and excellent compatibilities, they can give your product many priceless competitive advantages in terms of performance and sales appeal over products marketed in ordinary containers.

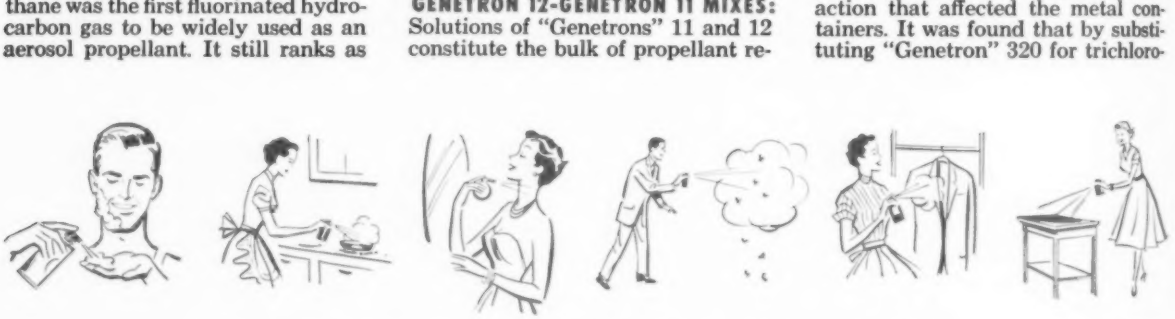
Following are the principal "Genetron" propellants which bring new versatility to aerosol packaging.

GENETRON 12: Dichlorodifluoromethane was the first fluorinated hydrocarbon gas to be widely used as an aerosol propellant. It still ranks as most important. Compatible with many product ingredients, it is often used in formulations where its high vapor pressure is required. An important use for "Genetron" 12 is with paint and lacquer formulations where its characteristics help eliminate "orange peel" and permit smooth, even coverage of paint.

GENETRON 11: Trichloromonofluoromethane came into prominent use as an aerosol propellant with the introduction of low-pressure containers. Many products, when formulated with straight "Genetron" 12, exceeded the ICC maximum pressure of 40 psi for this type of can. It was found that by using a blend of "Genetron" 11 and "Genetron" 12, the vapor pressure came well within the limits set for these "beer can" containers. "Genetron" 11's ability to act as an effective pressure depressant on "Genetron" 12, and its high solubility make it rate as a major aerosol propellant.

GENETRON 12-GENETRON 11 MIXES: Solutions of "Genetrons" 11 and 12 constitute the bulk of propellant requirements for present pressurized products, due to the optimum vapor pressures, excellent compatibility with numerous materials, and economical costs achieved for products packaged with these propellants. The 50:50 mixture has proven to be the most widely accepted blend in use, although additional solutions varying from 25-90% "Genetron" 12 are enjoying acceptance for a variety of products. Variations in the proportions of "Genetrons" 12 and 11 in a given formulation will result in corresponding variations in the particle size of the spray, solubility characteristics, hydrolysis rates and comparative cost.

GENETRON 320: Dichlorotetrafluoroethane was introduced as an aerosol propellant commercially when it was found that mixes of dichlorodifluoromethane and trichloromonofluoromethane, in certain formulations (notably those containing water), produced an undesirable reaction that affected the metal containers. It was found that by substituting "Genetron" 320 for trichloro-



TYPICAL AEROSOL PRODUCTS

Any product that can be brushed, daubed, dusted or sprayed on is a likely prospect for aerosol packaging. At right is a partial listing of the many products now being sold as aerosols which are formulated with "Genetron" Propellants.

Adhesive sprays
Air refreshers
Antibiotics
Anti-histamines
Anti-perspirants
Artificial snow
Artists' fixatives
Athlete's foot preventatives
Bactericides
Bandage sprays
Belt lubricators
Bird repellents
Burn ointments
Charcoal lighters
Chrome preservatives
Cleaning fluids
Colognes
Dairy insecticides
Dehydrator sprays
Deodorants
Design layout inks
Dust absorbers
Dye penetrants
Fabric color sprays
Fabric renewers
Fire extinguishers
Flea killers (pet)
Flower tints
Fluorescent lacquers
Foam preventatives
Foot relief sprays
Fur glazers and dyes
Furniture polishes
Garlic sprays
Glare-proof glass sprays
Golf ball renewers

Aerosol Propellants

for Every Aerosol Need!

monofluoromethane in these formulations the unfavorable reaction was eliminated. Blends of "Genetron" 320 and "Genetron" 12 made possible a number of new aerosol products in the drug and cosmetic field.

GENETRON 101: Monochlorodifluoroethane is finding increased use as a propellant for cosmetic formulations containing substantial proportions of alcohol, such as perfumes. In fact, some manufacturers indicate that "Genetron" 101 not only has unique odor stability, but in some cases actually enhances the fragrance of their perfumes. Important feature of "Genetron" 101 is that it is a single compound (not a mixture), possessing constant boiling point and thus maintaining constant vapor pressure and uniform performance during entire discharge of the aerosol. Other important characteristics of "Genetron" 101 are its high vapor volume and low liquid density. When filling on a fluid ounce basis, this means manufacturers can use a greater volume of product ingredient per ounce of propellant.

The following "Genetrons," because of one or more special characteristics, suggest uses principally as blending agents with the foregoing "Genetron" propellants.

GENETRON 226: Trichlorotrifluoroethane has a high liquid density and low vapor pressure that make it particularly suitable for blending with other "Genetrons" in such formulations as dry powders or foam products.

GENETRON 141: Monochlorodifluoromethane may be used as a blending agent where its high vapor pressure and excellent solvent properties are required.

GENETRON 100: Difluoroethane (1-1) has unique solvent characteristics that make it useful as a blending agent.

SPECIAL PROPELLANTS: Though the propellants listed on these pages represent the great bulk of those used in the Aerosol Industry, there are still others available for use where special properties are required.

For Further Information Send for Our Illustrated Technical Manual and Market Data Book

"ALL ABOUT AEROSOLS"

write to

genetron department

GENERAL CHEMICAL DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 Rector Street, New York 6, N. Y.

GC Allied Chemical

Basic Chemicals for American Industry

MADE WITH genetron PROPELLANTS

Graphite lubricants
Greenhouse insecticides
Hair lacquers
Hand lotions
Hosiery protectants
Ignition coatings
Ignition system driers
Insect repellents
Leather dressings
Lubricants
Metal lubricants
Metal polishes
Mildew preventatives
Moth proofers
Mold release sprays
Nasal relief sprays
Paints and lacquers
Paint and varnish removers
Penetrant oils
Perfumes
Plant insecticides
Plastic protective coatings
Polishing oils
Poultry inhalants
Residual insecticides
Rust cutters
Rust preventatives
Screen enamels
Shampoos
Shaving creams
Shoe polishes
Silverware coatings
Ski waxes
Soil fumigants
Spot removers
Static eliminators
Stencil inks
Suede restorers
Sunburn lotions
Sun tan oils
Tape removers
Topical anesthetics
Water repellents
Waxes
Weed killers
Window cleaners

Packaging and Selling

Retail Private Label

Some of the big nationally-advertised brands in the food field are beginning to give way to the private brands of the big retail groups. This is indicated in figures given at the recent meeting of the Central Retailer Owned Grocers.

The director of research of the Chicago Tribune told this group that some of the nationally-advertised brands are losing ground in several major food items. For instance, of all the coffee sold in the A & P stores, 86 per cent goes to A & P brands. The private brands of five major chains in Chicago get 35 per cent of the coffee market.

Combined chain brands of tea take about 41 per cent of total sales. In a long line of foods fresh, frozen and canned, the brands owned by the retail chains run well above the national brands.

Price is only a small factor in the success of this brand, according to these merchants, and national advertising is not erecting a barrier preventing the growth of the store's brand. In fact, it was emphasized that the ability of the store to merchandise and its control of preferred display space, gives it competitive advantage over national advertising.

Before the War, this industry had quite a serious problem in retail owned brands. This was true in the drug trade but particularly true in both department stores and chains in the cosmetic business. The war eliminated most of the store private label business. Now the cosmetic industry, or at least many manufacturers, have been using mass advertising and particularly television to enter mass distribution and have lost their intimate contact with many major retailers, particularly in the department store field. As some of these leading factors in the cosmetic industry weaken their position in department stores through their dependence on mass distribution and mass advertising it is very possible that we may see a strong revival of department store private label business.

Waste in Advertising

There are two excellent barometers of advertising and selling opinion. One is convention speeches and the other is articles and editorials in the business and advertising press.

During the last several months, in following these barometers, we have a very definite feeling that a change of opinion is taking place in marketing circles in this country.

We have been passing through a period where a number of manufacturers in almost every package goods industry have selected a specialty, put enormous advertising pressure in the form of several millions dollars in national magazines behind the specialty, and then have forced the specialty into an expanding distribution that took in every possible kind of store that could be forced into stocking it.

Now it seems that a serious question is arising in the minds of some merchants and advertising men as to whether or not over-distribution can have disastrous consequences and whether or not national advertising, standing alone, can carry the full burden of sales. We have quoted in this department several leading marketeers on this subject. We now add another, that is, E. R. Richer, Vice President of the Grey Advertising Agency, who recently stated "The average advertising campaign loses a third of its 'potential effectiveness' because it is not 'pre-sold' enough to salesmen, distributors and retailers. More money is being wasted in advertising today than there ever has been."

Sales Booklet

"How Salespeople Keep Customers Buying in a Self-service Store." This is a very interesting and valuable booklet written by John M. Wilson, Vice President in charge of Sales for the National Cash Register Co. of Dayton, Ohio. It is available from this company.

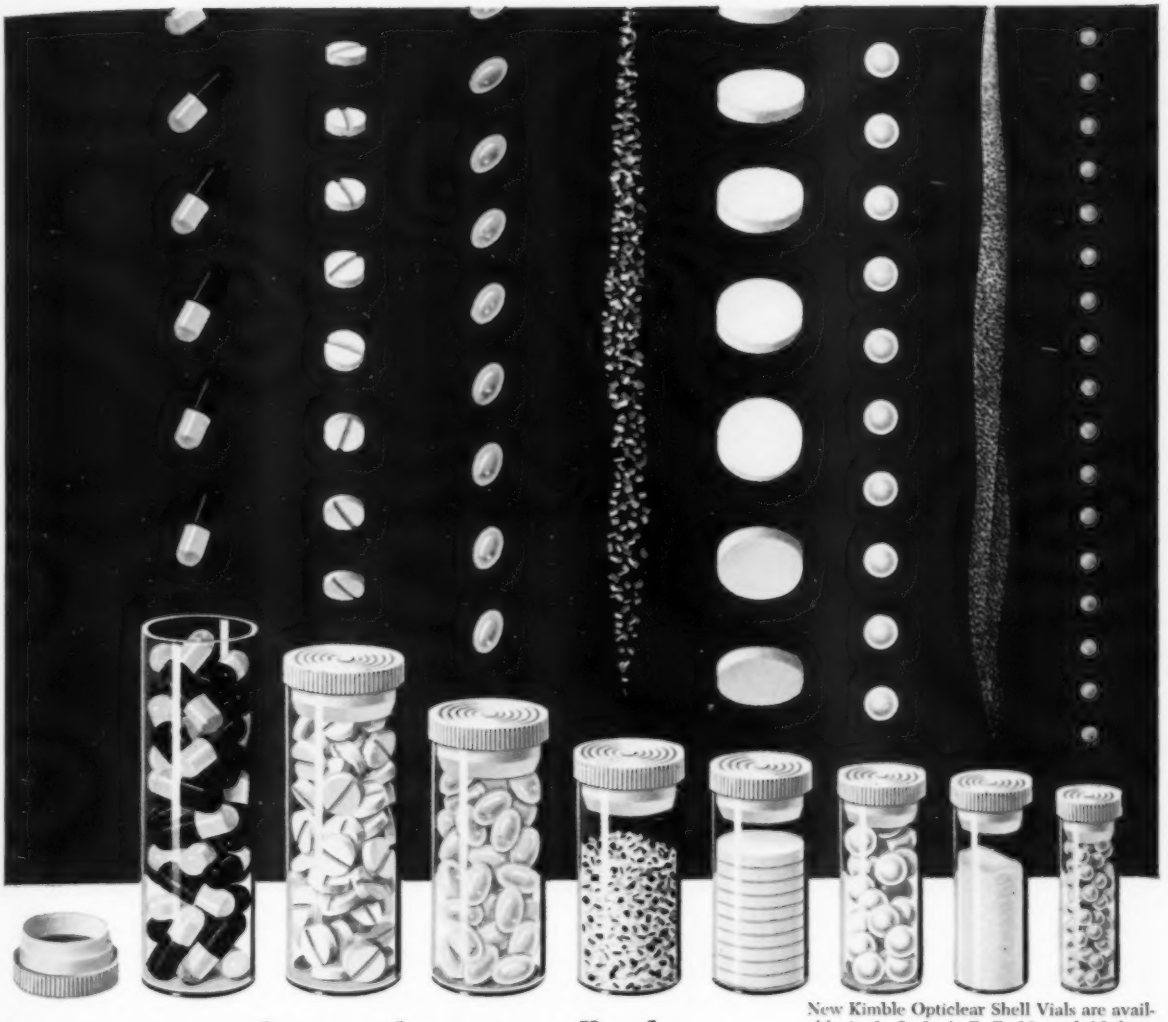
Said Mr. Wilson "If salespeople are to be successful in the art of giving on-the-spot service, they must unlearn some deep-rooted, lifelong habits, and be taught a few new principles! Mr. Wilson cites two specific examples to prove his point. He found, in one store, the owner complaining that since everything is self-service my salespeople have radically changed for the worse. "At first," he continued, "They were eager to help the customers but now they have gone to the other extreme. They ignore the customers and won't wait on them until service is demanded."

The second life-long habit of the retailer that interferes with proper self-service operation is the fact that the proprietor or the salesperson cannot help intervening with the customer and interrupting the sales influence of such things as impulse buying. Mr. Wilson cites an example that he observed in a store where the proprietor, in order to be of service, constantly took his customer out of buying circulation and took himself out of selling circulation."

Wary the Poll

Can it be that the consumer poll, the behavior study, the research in depth has had its biggest day of enthusiastic acceptance and is now being critically examined? We would like to hear what Dr. Dichter would have to say about the "human behavior" of advertising agency men who so exuberantly exaggerated the value of these studies.

At the recent International Advertising Conference, in Switzerland, a top executive of one of the largest



New Kimble Opticlear Shell Vials are available in 1, 2, 3, 4, 5, 7, 10, and 12-dram sizes. Polyethelene stoppers are hollow, providing more room for contents.

Now . . . every dry product can afford sparkling glass containers . . .

KIMBLE OPTICLEAR SHELL VIALS

Designed and priced for mass packaging

You can give your dry products the sales advantages of a sparkling-clear glass container—*no matter what your cost requirements.* Kimble Opticlear Shell Vials is the new vial line designed, produced—*and priced*—to make it practical and economical for packaging almost any dry product.

These new Kimble Opticlear Shell Vials have crystal-clear clarity, gleaming beauty, unusually high moisture-vapor resistance. New Kimble Opticlear Shell Vials are light and sturdy. The sparkling clarity of the glass provides perfect vision of contents, permits labeling either inside or outside.

New Kimble Opticlear Shell Vials have special, resilient, plastic stoppers to keep contents fresh and clean . . . free from dust, dirt and moisture. Even after stoppers are removed and replaced repeatedly, they re-seal tightly . . . are always easy to use.

If you are using an ineffective package, you can afford to switch to these new Kimble Opticlear Shell Vials. Write now and we'll send you information, prices and free samples of the sizes you use. Kimble Glass Company, subsidiary of Owens-Illinois, Toledo 1, Ohio.

KIMBLE OPTICLEAR SHELL VIALS
AN (O) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES · TOLEDO 1, OHIO

Sheffield Tubes

S. C. Johnson & Son's new Blem removes furniture blemishes . . . rings, burns and scratches . . . by actually re-compounding the finish the way a professional refinisher does.

A get-acquainted tube of Blem is now being offered free to purchasers of Johnson's Pride — truly a potent combination to beautify America's furniture!

Smart, sturdy, convenient, collapsible metal tubes — **Sheffield Process Tubes** — make the ideal choice for more effective merchandising, sampling and **selling**!

Try Sheffield on **your** next order.

THE SHEFFIELD TUBE

Factory and Home Offices: New London, Conn., Sales Offices: New York, Chicago, Los Angeles

American agencies stated that opinion polls and mass interviews generally report "only what people think they think." This was not meant to infer that people tell untruths, but that the response to interviewers are different from the response actually faced in buying situations.

This is something like the opinion stated some time ago by the head of a large department store. People cannot be frozen into rigid classifications of human thinking or human responses. Their emotional reactions and buying responses change from day to day and even from minute to minute in reaction to a multitude of different impressions. For this reason, stated the executive, motivation studies may do more harm than good.

The impulse purchase, a behavior response of this age, now occupies a major part in the thinking and planning for point-of-sale display and store merchandising. There isn't any question that the impulse purchase has been accounting for a very heavy part of the retail sales of certain commodities and that it is a potent factor in store selling. Just the same, it would be more than interesting to see how this impulse purchase holds up if we ever enter a period where the family budget necessitates careful calculation before each purchase is made. In a way the impulse purchase is a behaviorism that belongs to the lush opulent era.

Cosmetic or Tela.

Hazel Bishop, Inc. has just failed to declare its regular quarterly dividend. Television color spectaculars which did not pay off is reported to be the company's reason for this rather spectacular turn in the company's meteoric history.

It used to be said in the trade that Hazel Bishop, Inc., was not a cosmetic company but a television program. This report rather makes it look as if it is not the success of the cosmetic which pays dividends but the success of the television program.

Best Way to Merchandise

The Curtis Publishing Company is going into the trade paper business. The Ladies Home Journal will publish a new drug trade publication "Journal of Drug Merchandising."

We assume that this new publication of the Ladies Home Journal is part of the growing trend among consumer magazines to give way to competitive pressure by establishing all sorts of gimmicks and gadgets and come-ons to its advertisers, variously labeled as merchandising service.

The retail druggist needs another retail drug publication about as much as a centipede needs another pair of legs. Competition now to catch the attention and the interest of the retail druggist is about as intense as a vigorous editorial battle of specialists can make it. We don't know where the Ladies Home Journal folks are going to find the time or the experience or the brains to do as good a job as any one of a dozen of the retail drug journals. It seems to us that if these folks feel compelled to add something for nothing in the way of merchandising service that they could have done it far more effectively, far more economically and far more impressively by putting this merchandising information into a monthly insert which they would pay for, and furnish, to the leading authoritative retail journals.

Retail Reaction

If a retailer cannot get any satisfaction from a manufacturer in direct negotiations, maybe the way to do it is to buy a few shares of stock and "blow his top" at the annual meeting of stockholders. This is what an Oregon super-market operator, who claims he owns $30,000 worth of coupons which manufacturers have refused to redeem, did.

Mr. Dickson, who operates a grocery super-market a block square, in Oregon, allowed he is "burned-up" with the "misuse, abuse and skullduggery" which have grown up in couponing during the last few years. He calls himself a "Koupon Crusader."

General Foods Corporation was the company selected for the stockholders' oration. But according to reports, the day before the meeting a top executive and an attorney from General Foods persuaded Mr. Dickson not to disrupt the stockholders' meeting but to talk the matter calmly over with the executives after the adjournment of the meeting. We haven't heard the results but we have a hunch that Mr. Dickson had his coupons redeemed.

Escape from Self-Service

Pfizer Laboratories is telling the consumer the story of Terramycin in an unusual motion display which is now being reeled off in the windows of retail druggists. This is a complete story of the birth and development and perfection of an antibiotic. We hadn't seen this display but it must be a very effective use of window spots.

Pfizer also has a special Fall sales campaign for animal health products which includes display materials which will enable the druggist to set up his own Animal Health department. This magazine for some years has believed that several departments, such as Animal Health, Nutrition, Plant Diseases offer unlimited opportunities for the druggist to lift his store out of the sweltering mass of retail competition in the low-priced, mass distributed products which can increasingly only be sold profitably with a self-service department.

Turbulent Market

Like every other class of retailer, the operating cost of grocery supermarkets has been increasing year by year. According to a recent survey at the Supermarket Institute, store labor expense ratios were higher last year in 63 per cent of these companies.

"Higher store operating costs and the pressure on both selling and storage space brought about by the great growth in the number of products carried in today's food store makes it imperative that every phase of the store's operation carry its own weight."

Our finest quality glass stoppered bottles
for perfume and toilet water

Tester Bottles

Left: No. H-900 (footed)
No. S-7222 elongated stopper

Right: No. H-900
No. S-300 elongated stopper

No. 352

Available in 7 sizes from ⅛ oz. to 8 oz. Supplied plain or with fired-on ceramic labels.

No. 435

Made in 3 sizes only—¼ oz., ½ oz., 1 oz. Available plain or decorated.

CARR-LOWREY GLASS CO.

Designers and manufacturers of fine glass containers

Factory and Main Office: BALTIMORE 3, MD. • New York Office: 40 W. FORTIETH ST. • Chicago Office: 1572 MERCHANDISE MART

The people in the drug and cosmetic industry who have established an important part of their distribution in a grocery supermarket must, in the future, look to an increasingly active fight for the shelf space that their products hold in these stores.

Not long ago, we quoted some figures to show that a national business exceeding 10 million dollars on a single specific product, with a national advertising campaign of a minimum of one million dollars, is almost an essential minimum for anyone who hopes to maintain their place in this turbulent supermarket.

New Label Experiment

A 10,000-square-foot soft goods leased department in a new Food Farm super-market on Staten Island has been opened. In this department all manufacturers' labels have been removed from ready-to-wear merchandise because the management have indicated that they would seek a price level 20 per cent below normal retail prices for the soft goods items. Although there are about 35 clerks working in the section, the products are primarily sold as self-service with many of them pre-packaged.

"This is an experimental operation," said a spokesman for the store.

Package Infringement

A new definition of what constitutes an infringement in package design has just been established by a London court. Haig & Haig claimed that another distiller had copied their dimpled bottle.

The judge, who is a wag as well as a tetotaler, observes that a dimple is a mark of distinction that can cause trouble whether on a whiskey bottle or not. He claimed that he had a good eye for any kind of a dimple at thirty feet.

He could plainly see the Haig & Haig dimple at that distance. While admitting that some people might confuse the two bottles at thirty feet, the judge believes that the difference was quite obvious when only two feet away.

Currently in London, infringement package design depends on distance and not on fact.

Cause of Brand Disloyalty

Hurt and bewildered advertising men are more and more wailing about the growing indifference of the consumer to any one particular advertised brand and the willingness of the consumer to switch from one advertised brand to another at, for instance, the drop of a Davey Crockett bearskin hat. In other words, brand disloyalty is on the rampage and running high, wide and handsome.

According to one advertising man, the terrible thing about securing brand loyalty through advertising is that it must be achieved all over again for each new sale.

Another advertising man blames the retailer for his indifference and his absence of knowledge of what a wonderful thing it is for the retailer to have the manufacturer do all of the work of selling and just leave the retailer sitting at the cash register.

In a recent study of over 300 retailers in five major cities, these retailers were asked for a certain product, without the brand name being mentioned. Ninety-five per cent of these retailers recommended a different brand from the one under study, although this particular brand is backed by one of the largest advertising and promotional campaigns of any like product, leads in sales all competitors by over two to one, has 100 per cent distribution and is supposedly recognized as the standard of value in its competitive field both as to quality, turnover and retail profit.

These circumstances, so shocking to the average agency advertising man, leads us to suggest that he add a trade magazine to his list of media, and put somebody with brains, ability to write and an instinct for retailing on the job as the copywriter. When 90 per cent of the retailers try to substitute for a brand that has all of the qualities listed for this brand, the answer is not just ordinary brand disloyalty, but super-duper ignorance and casualness toward a good retail policy and good promotion at the point of sale.

Direct Selling Makes Retail Sales

An interesting sidelight on the current day social life in America was given recently at the National Association of Direct Selling Companies.

It used to be said that direct house-to-house-companies thrive during hard times because then they were able to recruit plenty of canvassers, but that they had difficult times during periods of prosperity because then everybody was regularly employed.

However, according to experts at this convention, the average woman canvasser is not motivated by the desire to work but rather by the wish for money. The big contribution which these direct selling companies are making to the economy is in providing profitable local part-time work to many thousands of women who are supplementing their husbands' income in order to buy in a retail store the multitude of luxuries and conveniences which this lavish country has established as the inalienable right of every American.

Store Personality

"The uppermost objective of the food retailer is to identify his stores in the minds of his customers so as to make them want to return and to recommend it to their friends. The development of a distinctive store personality is the key to moving from low profit media volume to larger profit media volume."

These are the words of an official of the National Association of Retail Grocers, in an address at the School of Business of Florida State University, sponsoring the three-day conference on "Profit Potentials through Food Store Personality." It would seem to us that hardly any other kind of retailer has so much distorted their store personality than has the booming, sprawling grocery super-market. Few other retailers have had the same elated feeling of riding high, wide and handsome during this dynamic era of

RICHFORD's SPILLPROOF PURSE FLACONS IN CLEAR & GOLDCÔTE GLASS

ROUND

Available in ★1 dram, 1¼ dram, and ★1½ dram (shown) with plastic cap (black or Goldcote) or polished brass cap. ⅔ oz. with black or Goldcote plastic cap only.

¾ oz. with large polished brass cap, small polished brass cap, or plastic flare cap in black or Goldcote.

Available in ★1 dram (shown), 1¼ dram, or 1½ dram with plastic flare cap in black or Goldcote.

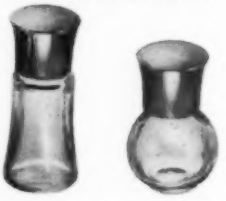
SQUARE

Available in ½ dram, ★1 dram (shown), ★1½ dram, ★2 dram, ★½ oz., ★1 oz., or ★2 oz. with black or Goldcote plastic cap.

Available in ½ dram, ★1 dram, ★1½ dram, and ★2 dram with black or Goldcote plastic cap.

Available in ½ dram, ★1 dram, ★1½ dram, ★2 dram, ★½ oz., ★1 oz. (shown), and ★2 oz. with straight sided black or Goldcote plastic cap.

ASSORTED SHAPES



FLARE BALL

Both above shapes ½ dram only. Available with black or Goldcote plastic flare cap or with jeweled filigree cap.

QUARTER CIRCLE

1 dram only with black or Goldcote straight sided plastic cap.

★CONVEX

★PINCH SQUARE

★WATCHCASE

TALL PINCH OVAL

Above 4 shapes in 1 dram only — available with black or Goldcote plastic flare cap or jeweled filigree cap.

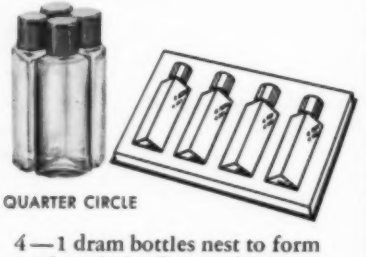
Immediately Available from Stock

SPECIAL SPILLPROOF COMBINATIONS

FLARE DUMBELL

OPERA CLIP

2 — ½ dram Spillproofs in 3 different combinations. Opera clip available with jeweled decoration.



QUARTER CIRCLE

4 — 1 dram bottles nest to form perfect circle. Come with black or Goldcote plastic caps. Also available (see sketch) in box with die-cut platform to hold 1, 2, 3 or 4 bottles.

All caps shown are available with jeweled decorations.

★All starred items in stock in Goldcote Glass as well as clear—all others Goldcoted on special order only.

RICHFORD CORPORATION

404 4th Ave., New York 16, N. Y.

their extravagant growth. For these reasons, it seems doubly significant to us that the first retail organization to make a conference study of the essential importance of store personality in retailing should be the food stores.

Facts on a Big Distributor

"National Sales Impact through McKesson & Robbins," is the title of a new 24-page booklet which deals with McKesson's wholesale distribution services. This is an interesting constructive booklet for anyone of 7500 drug, pharmaceutical and cosmetic manufacturers whose products McKesson now handles or for any manufacturer interested in getting acquainted with this massive national wholesale distributing organization.

The size of this huge organization can be outlined by some statistics in this book. Twelve hundred salesmen make 2,400,000 calls a year on 38,000 retail outlets. Nearly 300 telephone sales clerks make 40,000 sales calls a week or 2,500,000 contacts with druggists a year. Approximately 9,000,000 orders are shipped from the different divisions yearly.

In the McKesson's plan of decentralized operation are 74 co-ordinated local sales organizations, each with an average of 500 drug store accounts and with 18 salesmen and sales executives and four telephone sales clerks.

Each division salesman has an average of 32 active customers. He makes at least eight sales calls a day, five days a week. Telephone sales clerks make 32 to 35 additional calls a day.

Average division sales are about 4.8 million dollars a year but varies from two million to 17 million dollars. Each carries in stock between 17,000 and 25,000 items of merchandise.

These are figures with which you can do a little arithmetic about selling to the retail drug store.

Here We Go Again

Uneasy lies the head of a company caught in the competitive whirlpool of the tooth paste market. After a rapid succession of turbulent claims any of them could well say: "Here we go again, boys."

Because the tooth paste market has a volume well worth fighting for, it has in the last decade become the home of the giants. Colgate, Gleem and Pepsodent now have the big chunk of the market and if Bristol Myers' Ipana is added, these four brands will do nearly 90 per cent of tooth paste business.

The tooth paste market at retail level undoubtedly exceeds 160 million dollars.

Just to show what kind of a company you must keep to stay in the tooth paste business, Procter & Gamble is reliably reported to have spent 40 million dollars in advertising, promotion and sampling to establish Gleem as one of the leaders. The sales during this introductory period were not too much more than half the amount of money invested in selling and promoting this brand.

For an established brand fighting to hold its position the percentage of sales necessary to spend on advertising has been moving drastically upward over the last several years and is now said to exceed 30 per cent and to be probably nearer 40 per cent of sales.

The new bolt from the blue which is hitting the tooth paste industry, and incidentally smacking the consumer and the retailer just as hard, is the fluorides. As a success to ammoniated, chlorophyll and anti-enzymes, with not too much breathing space in between, this new additive holds promise of being the biggest therapeutic razzle dazzle of them all.

It is reported that up to date Procter & Gamble, Bristol Myers', Ammident and a Rochester company have been granted a permit to market a fluorident tooth paste without a doctor's prescription and that others are pending.

Colgate, as far as we know, has not yet put out on test a fluoride tooth paste although they have received a permit to market one. Procter & Gamble, on the other hand, have had their new tooth paste on the market in several test cities and are apparently ready this Fall for the big national invasion. Their advertising war cry: "Triumph over tooth decay" "Crest toothpaste with fluoristan actually strengthens tooth enamel to lock out decay." Warner Lambert claims to have found a chemical other than fluoride which they call "enamel solubility reduction agent." Their advertising which is also breaking in test cities promised "A toothpaste that actually strengthens teeth."

The outstanding characteristic of the American consumer today, from a marketing viewpoint, is their willingness to try almost anything once and their eagerness to try something new. We are sometimes forced to wonder, however, whether the consumer may not some day react against the succession of overwhelmingly presented therapeutic claims arriving in such rapid succession and which, in effect, deny the value of the previous claim.

Taxable Cosmetics

The National Association of Chain Drug Stores, Vanderbilt Hotel, 34th St. & Park Avenue, New York 16, N. Y. has just issued a little booklet which covers an alphabetical listing of all the products in toilet preparation, luggage, jewelry, furs, hand bags, wallets and other articles, which are taxed and non-taxable.

Broader Ethical Selling

One of New York's leading advertising agencies has just set up a separate division for marketing prescription drug products. This is a completely new venture for this agency. An executive of this agency said "We feel that to provide our clients with complete marketing counsel and service, we must make available to them the highly specialized skill and experience required in the prescription drug field, together with the general agency facilities and services now at their disposal.

We suppose that this agency is thinking in terms of a present client that has an ethical division. But we have wondered for some years why a leading agency does not think of the system of ethical advertising and marketing in terms of a non-medical product.

The right closure makes

MUST SELL ITSELF

Your package—the container and closure—must do its sales job quickly. Shoppers pause only a few seconds before choosing a brand.

EASY TO REMOVE, EASY TO RE-SEAL

HIere's a point-of-use appeal that also is an important feature of good closure showmanship. This spring torque tester tells closure designers how much pressure is necessary for good sealing and easy removal.

SEALED PROTECTION

Your product is protected—safe from evaporation—safe from contamination. The Tacseal innerliner seals tight and defies tampering. Tacseal innerliners are available for all type products in both metal and plastic closures.

more sales

Accentuate container appeal by emphasizing the closure

On the store shelf . . . in the window . . . as a counter display—the way your product catches the consumer's eye could well be the reason for its present sales or repeat sales curve. The right closure on your product can do wonders for its "sales morale."

BLENDING IN THE SALES APPEAL

Engineer-artists at Owens-Illinois give you expert help in selecting closures of eye-catching beauty, style and color to complement your container. They know how to use design to increase sales.

BEFORE—

This container lacks that extra spotlight in showmanship needed to make quick sales, at the point of purchase.

AFTER—

This container has it. The bright colorful, smartly styled closure makes this an attention-getting sales package.

METAL AND PLASTIC CLOSURES
AN (O-I) PRODUCT

OWENS-ILLINOIS
GENERAL OFFICES · TOLEDO 1, OHIO

NEWS IN PACKAGING...

Egan Heads Colgate Packaging

W. T. Egan has become director of packaging, Colgate-Palmolive Co., the firm having formed a new, integrated organization to consolidate all

WILLIAM T. EGAN

packaging activities. He will coordinate all packaging operations, such as development work, engineering, art, cost analysis, and evaluation, which were formerly handled in various departments.

Tube of the Month

Sun Tube Corp. is distributing the Tube of the Month to current and prospective clients, according to Ken Leghorn, president. Each month's selection contains a different product, for which Sun makes the tubes. Some of the selections already sent out are Old Spice and Mennen shaving creams, and Bryl Creme hair-grooming preparation.

Packaging Institute Forum

The Packaging Institute is holding its 17th Annual Forum at the Hotel Statler, New York, from October 31 through November 2. The first day of the program, called Management Day, will include talks by key men in the field, including Norman F. Greenway, president of the Folding Paper Box Association of America; Fen K. Doscher, vice-president, Lily - Tulip Cup Corp.; Charles W. Kaufman, vice-president, Kraft Foods Co.; Joel Y. Lund, president, Lambert Pharmacal Co., division of Warner - Lambert Pharmaceutical Co.; and William Naden, executive vice-president, Esso Standard Oil Co.

Charles Feld, executive director of the Institute, announces that advanced registration for attending the Forum can be made at any time through the Institute office at 342 Madison Ave., New York.

Multiple-Layer Tablet

Strong Cobb & Co. has a new tablet, called Striads, made of double- or triple-layer construction. Ingredients which are incompatible can be combined in one tablet by separating them into layers. Sustained action of the tablet can also be provided by putting the medication in layers which have bases of time disintegration.

The tablets may be had in almost every size. Strong Cobb's tablet machine produces about one million a day.

Nylon Synthetic Paper

Riegel Paper Corp. recently made the first commercial run of synthetic paper derived entirely from nylon fiber. This paper is almost impossible to tear by hand and is much stronger than paper made with rags or wood pulp; it is highly resistant to chemicals, absorbs very little moisture and resists the action of molds, bacteria and light.

Handi-Pak Vials as Catch-Alls

Armstrong Cork Co. is now distributing its Handi-Pak vials to pharmacists for sale as a container for storing odds and ends. Originally used exclusively for dry preparations, Armstrong learned

that persons who received a product packed in one of the snap cap vials usually kept it for use as a handy container for screws, buttons, fishhooks and other items. As a result of successful field tests, the company has widened the use of these vials, and is now offering pharmacists free of charge a compact counter basket to help promote their sale.

Silicone-Treated Bottles

Brockway Glass Co., in cooperation with Dow Corning Corp., has entered commercial production of silicone - treated glassware and is the first company to put it on the market. These companies have shown that there is no contamination of food when Dow Corning EF-4010 is used to coat wide-mouth food containers on both the inside and outside. For outside application only, Dow Corning EF-4141 is used.

Unique Package for Toni Lipstick

The Toni Company has packaged its new Soft Touch Viv lipstick in a shadow box display, each individual unit of which stands out attractively in a pyramid style carton. Each shadow box is distinctively printed to form a three-dimensional display, and is die-cut in one piece to fold and lock into shape. The inside panels of every shadow box

form a V which is re-emphasized by the printed design of the entire display.

The new package was constructed and produced by the ACM division of Robert Gair Company, Inc.

Collapsible Tube Output Up

Collapsible tube shipments for the first six months of this year went slightly over the half-billion mark with output totaling 505,747,008. This was a three per cent gain over 491,130,576 units produced in the first six months of 1954 and represents one of the highest levels ever attained, according to the Collapsible Tube Manufacturers Council. The industry, composed of sixteen manufacturers with twenty plants in eleven States, made gains in five of six product classifications.

Shaving cream tubes totaled 29,561,904 units, against 26,183,088, a 12.9 per cent jump. Medicinal and pharmaceutical tubes were up 8.2 per cent, from 91,542,096 to 99,065,376, while cosmetic tubes increased two per cent from 44,415,360, to 45,310,032 units. Dentifrice tubes, accounting for

Plastic Bottles *by Continental*

are designed to appeal

Whether your product is sprayed, sprinkled or poured . . . or whether you sell convenient plastic containers directly to the consumer, it will pay you to investigate Continental plastic bottles. They're unbreakable . . . can be squeezable if you like. They can be made in most any shape and size. As for colors — the rainbow's the limit.

It may be that you'll find just what you need among Continental's stock sizes and shapes. In any case, you'll find that Continental research and engineering people, and designers, too, have a lot of new ideas for increasing appeal with plastic bottles. Why not let them help you?

CONTINENTAL CAN COMPANY

Our Fiftieth Year of Tailor-Made Packaging

MILLSPLASTIC DIVISION

135 SOUTH LA SALLE STREET • CHICAGO 3, ILLINOIS

Depend on SCHOETTLE FOR FOLDING BOXES...
BOXES OF EVERY SHAPE AND SIZE AND FOLD . . . DESIGNED BY PACKAGING ENGINEERS WHO KNOW HOW TO CREATE THE BETTER, SMARTER, MORE ATTRACTIVE PACKAGE!
WE DON'T KNOW HOW TO MAKE ICE CREAM OR BUTTER OR FROZEN BEANS ...OR TOOTH-PICKS OR OATMEAL OR CORN FLAKES OR BISCUITS, BUT—
WE SURE KNOW HOW TO MAKE FOLDING BOXES FOR THEM—WAXED OR PLAIN—THAT PROTECT BETTER, ATTRACT BETTER, SELL BETTER!
Write, wire or phone... a consultation involves no obligation!
EDWIN J. SCHOETTLE CO. INC.
533 NORTH ELEVENTH STREET, PHILADELPHIA 23, PENNA.
Designers and Manufacturers of Paper Boxes with Buy Appeal!

approximately half of tube production, increased 1.1 per cent from 244,967,616 to 245,090,448 units. Those for household and industrial products were off a fraction from 83,749,104, to 83,367,648 units. While tubes for food products were up 72.4 per cent, from 273,312 to 471,168 units, they only account for one-tenth of one per cent of output.

Of total shipments, dentifrices make up 49 per cent; medicinals and pharmaceuticals, 19.6 per cent; household and industrials, 17 per cent; cosmetics, nine per cent; shaving creams, 5.3 per cent; food 0.1 per cent.

Colgate Aerosol Promotion

Colgate is promoting its new aerosol air deodorant, Florient, with an accompanying offer of a peppermill and salt shaker set. How to present this offer to the customer in an economical manner,

without having to change the bulk packaging procedures was solved by Brooks & Porter, Inc., specialists in retail counter folding cardboard merchandisers.

The result was a combination display card and order form that fits tightly under the plastic cap. The front of the card, which stands up in full view of the customer, describes and illustrates the offer, while the back tells how to send for it.

The card is already attached to the can when it arrives in the retail store, so that there is no extra work in setting it up on the counter or shelf.

Package Engineering Course

Columbia University is offering a 30-week course in Package Engineering from October 5 through May 23 on Wednesday nights, 7:10 to 9:00. The course is being given by the Department of Industrial Management Engineering in Room 402 Engineering Building on the Morningside Heights Campus at 116th St. and Broadway, New York.

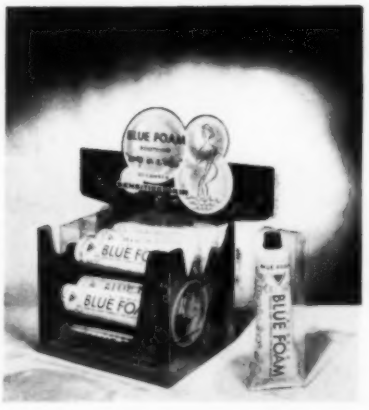
CSMA Aerosol Competition

The Chemical Specialties Manufacturers Association will hold its 42nd annual meeting at the Roosevelt Hotel, December 5-7 and will present the fourth annual aerosol awards at that time, according to Frederick Lodes, chairman of the Aerosol Awards Committee.

Entries will close on November 1, states Mr. Lodes, and those entering the package competition should submit their products to the committee at the CSMA office as soon after September 20 as possible. Each entry should include one completely assembled empty container with attached tag showing the name and address of the brand owner and the class in which it belongs.

Plastafol Cartons Aid Display

Zotox Pharmacal Co. is using Plastafol cartons to package its new Blue Foam "soap in a tube." Designed and produced by the Gair Cartons division, Robert Gair Co., the completely transparent Plastafol carton assures complete visibility of the product and permits easy handling.



Bakelite Monthly Newsletter

The Bakelite Co. is publishing the latest packaging developments and applications of plastics in a new, illustrated monthly newsletter for extruders, converters and coaters. Called "Packaging with Plastics," the publication deals with case histories of successful packaging applications, technical data on basic resins and new and unusual packaging ideas on the use of Bakelite plastics in the packaging field.

Packaging with Plastics may be obtained from the Bakelite Co., a Division of Union Carbide and Carbon Corp., 30 East 42nd St., New York 17.

Recent New Products

Abbott Laboratories. *Placidyl*, a mild nonbarbiturate hypnotic.

Amber Laboratories, 3456 N. Buffum St., Milwaukee, Wis. *Quaff-Aid.* Food product for the relief of hangovers.

Amole, Inc., Dayton, Ohio. Three attractively packaged toilet kits.

Ayerst Laboratories, *Prelafal*, a new dietary supplement, in tablet form.

Bristol Laboratories, *Bristamin Tablets* in 50 mg. size. Previously only in 25 mg.

Burroughs Wellcome & Co. (U.S.A.) Inc. *Cortisporin.* For inflammatory conditions of skin, part of eye.

Eaton Laboratories. *Tricofuron Suppositories and Powder.* Both are used together for trichomonas vaginalis vaginitis and accompanying secondary bacterial infections.

Flint, Eaton & Co. *Raucylate Capsules*, to relieve pain, allay tension.

Dorothy Gray. *Sili-Creme Lotion.* Contains protective Silicone and Allantoin.

Chas. Pfizer & Co. New fine granular form of *anhydrous caffeine*, U.S.P.

Premo Pharmceutical Laboratories. *Dermeze Aerosol.* Minor skin irritations.

Sharp & Dohme division of Merck & Co. *Hydrospray Nasal Suspension*, for allergic and inflammatory conditions of the nose. *Hydeltra Tablets.* Have more potent anti-inflammatory action than either cortisone or hydrocortisone.

Shulton. *Desert Flower Bubbling Bath Crystals*, an addition to its Desert Flower line.

Sofskin. *Sofskin Moisture-Magic Hand Cream.* For very dry skin.

E. R. Squibb & Sons. *Nitretamin*, for the prevention of angina pectoris attacks. *Counterpain*, an analgesic balm for the relief of muscular aches, pains and strains. *Mycostatin Vaginal Tablets*, for effective treatment of vaginal moniliasis.

The Upjohn Co. *Delta-Cortef.* New synthetic steroid with effects similar to hydrocortisone; three times as potent.

Whittier Laboratories. *Pambromal.* For controlling dysmenorrhea and premenstrual tension.

Wyeth Laboratories. *Bicillin Poultry Formula.* For the treatment of blue comb disease in turkeys and chickens.

control's the thing...

WITH ANCHOR HOCKING, TOO

Anchor® Metal and Molded Closures provide dependable, attractive and efficient seals—their uniformly high quality a result of exacting quality controls.

50th Anniversary

The archer must have a steady hand, a sharp eye, to give him the perfect *control* that makes him a master. And *control* is important, too, in the manufacture of Anchor Hocking quality products.

From the selection of all raw materials to the final production line inspection, Anchor Hocking employs literally hundreds of exacting *controls,* tests and checks involving many scientific testing devices. Although each factory maintains a laboratory of its own for quality control purposes, central laboratories at Lancaster, Ohio, serve as a control center for all—veritable watchdogs that make certain Anchor Hocking products comply with their rigid specifications.

Eleven strategically located factories and sales-service representatives in 25 principal cities in the U. S. and Canada await the opportunity to serve you with controlled high quality Anchor Hocking products.

Closure coatings are tested and evaluated with an abrading instrument to make certain they comply with rigid quality control specifications.

Caps removed from production are gage-checked for height, turnover, skirt height and diameter, at regular intervals, to maintain uniform quality.

Specially trained inspectors guard closure quality through careful examination and strict inspection of Anchor Caps before packing and shipping.

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DROPPING PARTS

"Repeat-Sale Insurance" for Liquid Preparations

#1
Non-rolling, extra-depth Bakelite cap; thick flange rubber bulb; Saftee ball glass.

#3
Regular plastic cap; thin flange rubber bulb; semi-blunt glass.

#4
Metal cap; oil-resisting Amekine synthetic rubber bulb; blunt glass.

#5
Small size plastic cap; midget rubber bulb; regular straight glass.

The New Perfection line of functionally designed dropping parts gives satisfaction where satisfaction counts—in the hands of the user. To make sure the customer's first reaction to your product is 100% favorable, specify New Perfection. Our rigid inspection system assures the cleanliness and uniform high quality of every shipment.

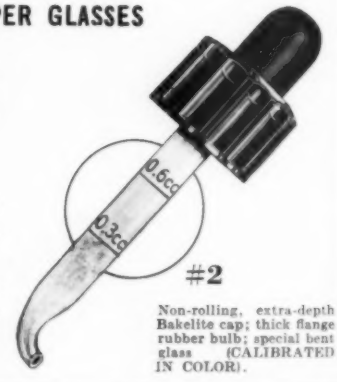
New Perfection dropping parts will fit your bottle or can be furnished in combination with our Modernistic bottles in Amber, Blue, Green or Clear glass. Bottle sizes—⅛, ¼, ½, 1 and 2 oz.

NEW PERFECTION DROPPER GLASSES

CALIBRATED

IN COLOR

This inexpensive extra adds welcome convenience to the use of your product. Accurate calibration in any color marks the specific dosage indicated. Your firm name or trade-mark may also be imprinted.



#2
Non-rolling, extra-depth Bakelite cap; thick flange rubber bulb; special bent glass (CALIBRATED IN COLOR).

Improved bottle shape. Designed to lie flat for convenient labeling. Front provides ample label space.

IN ADDITION to NATURAL RUBBER BULBS for GENERAL USES, WE CAN ALSO SUPPLY

AMEKINE (OIL-RESISTING) Synthetic Rubber Bulbs

which are recommended for use with oil preparations, such as nose and ear drops and vitamin products. Even after long exposure to oil, Amekine closely retains its original shape and functions perfectly.

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Patent THOUGHTS AND TRENDS

*by Thomas Cifelli, Jr.**

PATENT ATTORNEY

PATENTS AND TRADE-MARKS IN FOREIGN MARKETS—II

Last month we took a pretty long look at some of the patent problems faced by a U. S. pharmaceutical manufacturer doing business in foreign countries. This month we shall consider some of the trade-mark problems such a manufacturer should be prepared to meet in foreign markets.

This question has been ably considered by Stephen P. Ladas whose views were given in a paper he presented at the 126th meeting of the American Chemical Society and which is scheduled for publication soon in the Advances in Chemistry Series Pharmaceutical and Medical Literature of the American Chemical Society. For permission to quote from this paper the writer's appreciation is again expressed to the American Chemical Society.

Mr. Ladas divided his subject into the following categories:

1. Nature and Function of Trade-Marks for Pharmaceutical Products.
2. Economics of Such Trade-Marks in the International Field.
3. Bases of Protection in Foreign Countries.
4. Stipulations of International Conventions.
5. Piracy and Infringement.
6. Unfair Competition Problems.
7. Generic or Non - Proprietary Names.
8. Transformation of Pharmaceutical Trade-Marks into Generic Names.
9. Licensing Arrangements.

1. Nature and Function of Trade-Marks for Pharmaceutical Products

Ladas points out that trade-marks for pharmaceutical products are not different in nature from trade-marks for any other products. However, trade-marks are particularly important in the pharmaceutical field because pharmaceutical products generally relate to chemicals which are difficult to remember, pronounce, write, or are unsuitable for practical uses for other reasons. Consequently, a good trade-mark, which serves to identify and distinguish pharmaceutical products and functions as a symbol, is of especially great value.

2. Economics of Such Trade-Marks in the International Field

Ladas points out that important as the economic values represented by pharmaceutical trade-marks are in the domestic market they are even more important in the international market. In the domestic market the purchasing public has a number of different ways by which it may exercise its choice for a particular manufacturer's product, such as knowledge of the high-standards of a manufacturer by reputation, advertising, personal associations, etc. In foreign markets, however, trade-marks are often the only means of creating and maintaining goodwill.

In the international field pharmaceutical trade-marks possess a distinct advantage over trade-marks for other products because of the fact that a pharmaceutical trade-mark soon finds its way into the day-to-day nomenclature of medicine and pharmacy all over the world and hence identifies a particular chemical or manufacturer everywhere. Trade-marks for other products are generally not so valuable in that they may have different associations in different countries due to the pitfalls presented by foreign language, the necessity to adjust the composition of some products to suit national taste, etc.

Another international angle to pharmaceutical trade-marks is that they lend themselves to use where the U. S. manufacturer does not actually go into foreign manufacture but permits authorized licensees to do so. In such cases the owners of pharmaceutical trade-marks may find it profitable to retain the ownership of valuable trade-marks in their own hand but to grant licenses for the use of their marks by foreign organizations.

3. Basis of Protection in Foreign Countries

Ladas points out that the basis of trade-mark protection in foreign countries is radically different from that in the U. S. A. Consequently, U. S. thinking on the subject may well lead to serious pitfalls if followed in connection with foreign markets. In the U. S. A. a trade-mark right is derived from *use* of the mark. This is basic to our thinking. The foreign view is that one may acquire trade-mark rights by registration only and without prior use. This foreign view applies to nearly all foreign countries including the British countries. One may there register a trade-mark and acquire a monopoly in it regardless of whether he has used it before. In British countries, Ladas points out, a bonafide intention to use the mark after registration is all that is required. In the U. S. A. there is protection for unregistered trade-marks but in foreign countries there is no such protection. Generally speaking the owner of an unregistered trade-mark in the U. S. A. will be protected by the courts more or less the same as the owner of a registered trade-mark but this is not so in foreign countries. In British countries an unregistered mark is protected only against someone who attempts to pass off his products as those of the owner of the trade-mark. In Latin American countries as well as some others an unregistered mark is not protected against infringement. Ladas points out that a much more serious difference between the U. S. and foreign views is the question of the position of a prior user of a mark as against a prior applicant or registrant for such mark. In British countries and a number of civil law countries a prior user can contest the registration of a subsequent party for the same or similar mark. But in a number of other countries, the prior user cannot overcome someone who applies subsequently for registration or at most can prevail under very definite limitations.

Ladas concludes by stating:

> The net result of all this is that American manufacturers or dealers

*Richards and Cifelli, Newark, New Jersey

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. . . if you have an aerosol product
. . . if you have an aerosol project
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HELP YOU . . . Tens of millions of successfully selling aerosols are custom formulated and/or filled by G. Barr & Company for many of the nation's leading concerns. These are testimonials of leadership . . . earned through outstanding aerosol research laboratories . . . creative product development . . . meticulous quality control . . . effective production economies. And . . . G. Barr & Company markets no products of its own.

Whether you need help in developing a new aerosol idea or in filling a current product . . . whether you need 1,000 units or a million per week, G. Barr & Company's three aerosol filling plants—New York, Chicago, Los Angeles, can take care of your requirements now. Three key locations to assure you of freight savings and on-schedule delivery.

- *Aerosol filling by refrigeration or pressure.*
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- *Aerosol cosmetics, insecticides, pharmaceuticals, waxes, cleaners, polishes, household products . . . your new product idea.*

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in pharmaceutical products must protect their trade-marks by registration in foreign countries if they want to prevent piratical misappropriation or infringement.

4. Stipulations of International Conventions

It has long been realized that International trade would be chaotic without adequate International protection of trade-marks and without a harmonization of the laws of the various countries on certain aspects.

Ladas notes that the best results in this connection were accomplished through two international acts:

The International Convention for the Protection of Industrial Property, and the General Inter-American Convention for Trade-Mark and Commercial Protection.

The International Convention contains the following stipulations on trade-marks as quoted from Ladas:

(a) It provides for "national treatment" of trade-marks of nationals of the contracting parties. This means that foreigners enjoy in each contracting country the same rights and protection that their law affords to their own nationals, no discrimination whatsoever being allowed and no reciprocity being required.

(b) An applicant for a trade-mark in his home country enjoys a right of priority of six months for filing in foreign countries.

(c) A trade-mark registered in a person's own country must be admitted to registration in the other countries, subject to certain exceptions, notwithstanding any difference in the law with respect to registrability.

(d) The owner of a trade-mark well known in the foreign country may cancel the registration of the same or an infringing mark and suppress the use of such mark in the other countries within a period of three years or without limit of time if the subsequent party's registration was obtained by fraud.

(e) Trade-marks may not be forfeited on account of non-user in a contracting country except after a reasonable time and provided that the owner cannot explain non-user for reasons beyond his control.

(f) A trade name, as distinguished from a trade-mark, is protected regardless of registration.

(g) False indications of origin are prohibited.

(h) All countries are required to suppress acts of unfair competition.

The Inter-American Convention has many provisions analogous to those of the International Convention and in addition it provides for the protection of the first user against an infringing applicant or registrant, at any time or even by showing in the absence of prior use in the foreign country that the applicant or registrant had knowledge of the prior owners' right. Ladas says that the only bad thing about this convention is that it has been ratified by 10 American republics only and the other 11 are not a party to it.

5. Piracy and Infringement

The term "piracy" is defined by Ladas as:

> the misappropriation of a trade-mark with the pirate's knowledge of the prior ownership and use of such trade-mark by its true proprietor.

Ladas notes that many American manufacturers have had sad experiences with such happenings in recent years, a conclusion which the present writer unhappily knows to be quite correct. Ladas' suggestion to alleviate the situation is given in the following words:

> The only protection against this is to place oneself in the position where there would be a legal basis for succeeding against such pirates. In countries where prior user gives title to the trade-mark, the owner of a trade-mark for pharmaceutical products must establish technical user in such countries. On the other hand, where ownership in a trade-mark is acquired only by registration, the trade-mark owner must apply for registration without delay.

The pharmaceutical marks are particularly susceptible to such acts of piracy because American manufacturers of new drugs or drug products usually announce them by publicity in national American magazines which have an international circulation and distribution. Pirates then rush to apply for registration of such trade-marks in their own name with the aim of holding up the foreign manufacturer and demanding tribute for the use of the trade-mark, or at the very least, to obtain exclusive distribution rights in their particular country.

On the question of what to do when your trade-mark is infringed, it is pointed out that there is only one way to protect a trade-mark and that is by objecting against and attacking every imitation. One method is to be very cautious and attack only imitations against which you have a good chance of success. Ladas says that the result then would be that the owner would lose very few cases but at the same time would finish by having a narrow scope of protection. The other philosophy is to be daring and sensitive and attack any imitation of one's trade-mark which comes close to it. The net result may be that you may lose many cases but you will finish by getting a broad boundary line around your trade-mark and a large scope of protection for it.

The only criticism the present writer has of the second method is that its cost may well be, and probably usually is, prohibitive.

6. Unfair Competition Problems

The lack of agreement as to what constitutes unfair competition may be clearly seen from the following quotation taken from Ladas' paper:

(a) A number of countries have no law on unfair competition at all, either by statute or by Court decisions, or have a most rudimentary law applicable only to situations of pure fraud.

(b) A number of countries have enacted legislation, but such legislation is directed to certain limited specific acts of unfair competition, such as false advertising, interference with contracts with employees, fraudulent disparagement, fraudulent acts of confusion with the name of another, misuse of business secrets, and the like, but without an all-inclusive prohibition of acts contrary to honest practices.

(c) A number of countries have a special statute of unfair competition with a broad prohibition and also a specific enumeration of specific acts of unfair competition.

(d) Lastly, other countries have no legislation but have developed a full body of unfair competition law by judicial construction of a general provision of the Civil Code or of general principles of common law.

(Continued on page 417)

Triple Seal Snap Cap Vials!

The **NEW** *Line of*
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ANOTHER FINE DEMUTH PACKAGE

Demuth Sealtite "V" Snap Cap and Demuth Vial are Specially Designed to Insure a Perfect Fit and Triple Sealing of Cap and Vial at These Points of Contact!

1 - INSIDE OF LIP
2 - BEAD
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The Triple Seal Snap Cap is a Demuth development designed to give additional sealing performance and engineered to:

1. Provide maximum orifice size.
2. Provide cap fitting flush with body of vial.
3. Permit run with high speed capping equipment.

Sturdy of construction, the Demuth Snap Cap retains its shape under pressure when being fitted on Demuth's specially designed vial. Fits tight and snug, yet is easily removed from vial.

Demuth's new glass vials made of crystal clear glass with the Triple Seal Snap Cap are available in three standard body diameters and in any desired length. Their uniform wall thickness means perfect visibility without distortion. Demuth Glass Vials retain clarity, will not cloud, craze or scratch.

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NEWS . . .

GEORGE H. WEILER, JR.

Weiler Appointed by Pfizer

George H. Weiler, Jr., has been appointed director of public relations. Before joining the company in November, 1954, he had been sales manager of the North American Equipment Corp. Prior to that he had been associated with Lever Brothers and Sharp & Dohme, respectively.

Cont. Can Appointments

F. G. Devere has been appointed manager of sales, metal specialties, of Continental Can Co. He will be responsible for all of the metal containers produced in the firm's Passaic, N. J., and Baltimore plants.

F. W. Rosenbauer has become sales manager of special containers, such as those for proprietary products.

R. G. Hockmuth has been appointed assistant to Mr. Devere and will promote Continental's line of Decoware products.

J. E. Waesche, Jr., continues as sales manager for Decoware in the eastern division.

G. A. Thacker has become sales manager for metal specialties in the central division, while R. W. Franz continues in that position in the Pacific division.

F. G. DEVERE

Bajak Promoted by Cyanamid

Henry W. Bajak has been appointed sales promotion manager for pharmaceutical products by American Cyanamid Co., Fine Chemicals division. He joined the company in 1952 as branch manager of the Chicago office of the Calco chemical division.

Honored by Squibb

Roland J. Dahl was recently honored at the University Club, New York, on his completion of 25 years with the E. R. Squibb & Sons division of Olin Mathieson Chemical Corp. He received a certificate of membership in the Squibb Quarter Century Club, a gold service pin, and a number of gifts from his associates.

He is director of research administration for the Squibb Institute for Medical Research.

Roland J. Dahl, right, director of research administration of Squibb Institute for Medical Research, receiving 25-year service pin of Squibb Quarter Century Club from Dr. William A. Feirer, director of Institute. He joined the firm's Brooklyn laboratories in 1930.

Huisking Forms New Company

Chas. L. Huisking & Co. has formed a new company, Clinton Chemical Co., to handle its rapidly expanding manufacturing operations at its Brooklyn plant. Huisking is discontinuing its trading operations and will act as agent and distributor for the many American and foreign manufacturers it represents, as well as for the newly formed company. In addition to camphor tablets (from duPont camphor), santonin, vitamin oils and chemicals, the firm is adding other specialized products and alkaloids.

William Huisking is president of Clinton Chemical Co.

Bercow on Robeco Export Staff

Alan D. Bercow has joined Robeco Chemicals, Inc., New York, as a member of the export department. The firm has been actively engaged in world markets for 38 years.

EDWARD S. HAGERTHEY

Hagerthey Retires Wheaton

Edward S. Hagerthey, manager of the New York sales office of the T. C. Wheaton Co. since 1918, retired at the end of July. He had been actively engaged in the manufacture and marketing of glass containers for 50 years.

A resident of Roselle, N. J., for the past 35 years, he has held most of the public offices in the borough, including that of Mayor. He was also Director of Civil Defense and Disaster Control.

Mr. Hagerthey is a member of the American Standards Association and an ex-chairman of the tariff committee of the Glass Container Association.

With Baxter Labs.

Dr. John F. Reinhard, formerly director of the pharmacology department for Mead Johnson Research Laboratories, has been appointed director of pharmacologic research, Baxter Laboratories.

O'Connor Promoted by Eaton

Dr. John O'Connor, chief of the virology section, Eaton Laboratories, has become head of the microbiology division, according to Dr. W. B. Stillman, director of research. He will be in charge of all research and development in the fields of bacteriology, parasitiology and mycology.

DR. JOHN O'CONNOR

ATLAS

SORBITOL, MANNITOL AND RELATED POLYOLS • EMULSIFIERS, SOLUBILIZERS

Ointments made washable by use of Atlas emulsifiers

Washable ointments and bases have been developed by several manufacturers, through the use of Span® and Tween® emulsifiers. Medicated preparations which leave permanent stains on clothing and bed linen are sometimes objectionable; such preparations can be formulated readily into washable form by means of Atlas emulsifiers.

Ointments or bases of either the anhydrous melt type or emulsion type can be made washable by formulating with appropriate Atlas emulsifiers. In addition, such a method of formulation often improves cosmetic acceptability, and the ointment can be removed easily from tender or irritated skin.

Melt-type ointments or bases . . . can usually be made washable by compounding with one of the hydrophilic Atlas

emulsifiers. A small percentage of Tween emulsifier, for example, will render the melt water-dispersible. In some cases, the blending of a lipophilic emulsifier, such as one of the Span materials, will assist in blending the Tween product into the melt.

Emulsion-type ointments or bases . . . can be formulated in washable form by using a blend of Atlas emulsifiers which will make O/W emulsions. A hydrophilic-lipophilic blend (such as a blend of Tween and Span emulsifiers) is always used in such cases, the hydrophilic (Tween) emulsifier being predominant in the emulsifier blend. The lipophilic (Span) emulsifier helps to increase the stability of the emulsion.

You'll find many valuable suggestions on the use of Atlas products in the catalog, "A Guide to Cosmetic and Pharmaceutical Formulation with Atlas Products." Write to Atlas for a copy, and for recommendations on your specific formula.

Forward-looking formulators use ATLAS emulsifiers

. . . like Norwich Pharmacal Company, makers of "Unguentine." This famous remedy for burns and skin injuries now incorporates Span 60 (sorbitan monostearate) and Tween 60 (polyoxyethylene sorbitan monostearate) in a manner which makes the product readily washable from clothes or sheets.

improved · softer · washes stain-free
Unguentine
"the First thought" in burns and skinjuries
improved · softer · washes stain-free
Unguentine
"the First thought" in burns and skinjuries

Cool taste of sorbitol produces new effects in liquid preparations

In contrast to other "bodying" agents, which often leave a harsh or "hot" aftertaste, sorbitol provides unique improvements in palatability. It imparts to liquid preparations such as elixirs, tonics and syrups a pleasantly cool, mildly sweet flavor.

Sorbitol in the pure crystalline state has a negative heat of solution, and causes a drop in temperature when dissolved in water. This action, however, is not responsible for the cool taste imparted to liquid preparations. The effect is entirely one of taste sensation. Sorbitol tastes "cool" just as peppermint water tastes "cool" . . . a unique flavor effect lending distinction to formulas made with sorbitol.

As a bodying agent, sorbitol produces higher viscosity in given concentrations than any other polyol. In addition, its economical cost, and its history of stable, steadily decreasing price, make it a real money saver.

For information on typical formulas using sorbitol or for laboratory evaluation samples, write to Atlas.

KENNETH H. McCOTTER

McCotter Promoted by L & F

Kenneth H. McCotter, production manager, has been promoted to factory manager at the Bloomfield, N. J., plant of Lehn & Fink Products Corp., according to Edmund J. Dempsey, general manager of manufacturing.

Aerosol Packaging Service

Seymour Turner and A. J. Wagner have formed a complete contract aerosol packaging service, called Aerosol Packaging Service, a division of Sun-Lac, Inc. They plan to offer a thorough products research and development program as a prime customer service.

New facilities are being added which will provide "multi-station filling" at a new plant in Hillside, N. J.

Having had a great deal of experience in the packaging of perfumes, toilet waters, cosmetics and more recently, pharmaceuticals, in the low- and ultra-low pressure aerosol medium, Mr. Turner and Mr. Wagner have established their offices at 254 Park Ave., Newark.

Sets Up Own Business

Maggi Ryan, until recently with Schiaparelli, Inc., has established a firm under her own name at 500 Fifth Ave., New York. Her line will be ready for presentation later this month.

Top Winners in Shulton Contest

Eighteen prizes, totalling $5,775, were awarded last month to winners of Shulton's Old Spice Father's Day Window Contest. There were six winners in each of three separate categories.

The top winner in each division was: for department stores in cities of 220,000 population and over, Lit Brothers, Philadelphia; departments stores in cities under 220,000, Bon Marche, Spokane; and the third category, consisting of drugstores only, Kimball & Stone, Bakersfield, Calif.

DR. PAUL L. WERMER

Named V.P., Warner-Chilcott

Dr. Paul L. Wermer has been appointed vice-president and director of product development for Warner-Chilcott Laboratories, according to Alfred E. Driscoll, president of Warner-Lambert Pharmaceutical Co., parent firm. He has been associated with the Council on Pharmacy and Chemistry of the American Medical Association for the past six years. He has also been secretary for the A.M.A. Committee on Research and secretary of the A.M.A. Committee on Blood.

Zonite Buys Crookes Labs.

Zonite Products Corp. has purchased Crookes Laboratories, Inc., Mineola, Long Island, according to Charles T. Silloway, president. The acquisition of this ethical pharmaceutical firm represents a step in Zonite's long-range expansion plan for the development and manufacture of drugs and pharmaceutical products.

30th Year with Squibb

William B. Colgate was recently honored by a luncheon at the University Club, New York, in recognition of his thirty years of service with the E. R. Squibb & Sons division of Olin Mathieson Chemical Corp. He started with Squibb as a control chemist in 1925 and was later assigned to the Chicago territory as a professional service representative. He was brought to New York in 1938 to aid in sales promotion and was in charge of salesmen's training and service from 1946 until 1951 when he transferred to the Squibb Institute for Medical Research as associate director of the product planning division, dealing with the overseas aspects of product development.

Mr. Colgate is currently responsible for product planning for all Squibb operations, both domestic and overseas.

New Plant for Warner-Lambert

Warner-Lambert Pharmaceutical Co. began construction of a multi-million-dollar plant at Lititz, Penna., on August 4, during ground-breaking ceremonies which were attended by Elmer H. Bobst, board chairman, and Alfred E. Driscoll, president, as well as leading state and local government officials. The building is expected to be completed by June 1, 1956, and in production by September of that year.

The front section of the L-shaped building will contain two stories, with products being manufactured on the second floor and flowing down to the filling and finishing lines below.

Three judges of Shulton's Old Spice Father's Day Window Contest making selection of winners from among thousands of entries. Seated, left to right, are, Ted Boytos, managing editor, Beauty Fashion; Tom Lee, display consultant, Tom Lee, Ltd.; and Lou Kazin, associate editor, Drug Topics. Looking on are Maxine Rowland, Shulton's advertising manager, and Frank Carpenter, V.P. of sales.

HEXACHLOROPHENE—G-11®-and HEXACHLOROPHENE LIQUID SOAP

NOW U.S.P.

We are pleased to announce that hexachlorophene and hexachlorophene liquid soap have been included in the fifteenth revision of the Pharmacopoeia of the United States.

As the discoverer and producer of hexachlorophene, we welcome this further recognition by the medical profession and the privilege of joining the U.S.P. list of best-known and most important medical aids.

Hexachlorophene liquid soap is the only antiseptic soap recognized by the U.S.P.

G-11® is Sindar's trade-mark for hexachlorophene.

SINDAR® *Corporation*
Industrial Aromatics and Chemicals
330 West 42nd Street • New York 36, N. Y.

Branches: Philadelphia • Boston • Cincinnati • Detroit
Chicago • Atlanta • Seattle • Los Angeles • Toronto

Spencer, Pres. of Breon

Frederick O. S. Spencer, formerly vice-president in charge of sales, has been elected president of George A. Breon & Co., according to J. Mark Hiebert, president of Sterling Drug, Inc., parent company. He succeeds Graham Erdwurm, who resigned.

Charles L. Czermak, general sales manager, succeeds Mr. Spencer as vice-president in charge of sales.

Mr. Spencer has been with the Sterling organization for 17 years, having joined the sales staff of Winthrop Stearns, Inc., also a subsidiary, in 1938. He became vice-president in charge of sales of the Breon company in 1952 and was elected a director of the firm in 1954.

Gen. Hull Heads MCA

General John E. Hull, U.S.A., (Ret.), former United States and UN commander-in-chief in the Far East, has been elected president of the Manufacturing Chemists' Association, Inc., according to John R. Hoover, MCA chairman of the board and president of B. F. Goodrich Chemical Co. He succeeds William C. Foster, who resigned July 31, and will maintain his headquarters at the Association's offices in Washington, D. C.

Join J. B. Williams

Marvin E. Schmalzried has been appointed comptroller of J. B. Williams Co., and Charles W. Pike, plant manager, according to Charles T. Lipscomb, Jr., president.

Patton with Lederle

Dr. William H. Patton has joined Lederle Laboratories division, American Cyanamid Co., as a veterinarian in the clinical research department.

Heads N. Y. Kinetic Division

Charles Wirth III, formerly manager of field distribution of the "Kinetic" Chemicals division in Wilmington, has become New York district manager of this division, E. I. du Pont de Nemours & Co., at 40 Worth St. He will be responsible for all "Freon" sales to all consuming industries in the New England states and New York and New Jersey, replacing S. M. Conn who will continue as New York District manager for the dyes and chemicals division of du Pont.

Warren L. Hotmer continues as sales supervisor, reporting to Mr. Wirth.

JOHN L. BRICKER

Bricker in Colgate Exec. Post

John L. Bricker has been appointed director of merchandising for the toilet article department of Colgate-Palmolive Co. He has held several sales and merchandising positions with the firm since he joined it in 1949.

LESTER KOEPPEN

Koeppen, Coty Ass't Sales Mgr.

Lester Koeppen, Southwest district manager, has been appointed assistant sales manager of Coty, Inc., according to Philip Cortney, president.

Buys Nat. Chlorophyll Interest

Hofmann Industries, Inc., has purchased National Alfalfa Dehydrating & Milling Company's interest in National Chlorophyll & Chemical Co., Lamar, Col.

The firm will now be operated under the name of National Chlorophyll & Chemical Company, division of Hofmann Industries, Inc. Their facilities for the production of plant pigments have been modernized and expanded. As a result, both carotene and xanthophyll have become available in quantity to the feeding and food industries in commercial quantities.

Baker with SKF

Seth N. Baker, formerly public relations manager of Sharp & Dohme, division of Merck & Co., has become head of the employee communications and community relations section of Smith, Kline & French Laboratories. He will supervise all intra-company public relations projects, community relations projects and the company's general publicity program.

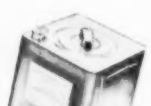
Bradley Moves N. Y. Office

Bradley Container Corp. has moved to larger offices at 655 Madison Ave., New York 21. E. W. Smith III is sales manager in charge of the regional office.

50th Year at Wampole & Co.

Lillian V. Winter recently received an award from Henry K. Wampole & Co. in honor of her 50 years of service with that firm. Presented by Bert W. Chiappini, president, this is the eighth such award that has been made since 1949.

James J. Kerrigan, left, president, Merck & Co., Inc., presenting company's check to Samuel D. Leidesdorf, treasurer of National Fund for Medical Education, while S. Sloan Colt, Fund President, looks on. Merck's contribution raised the Drug division's total to $1 million.



BUILD YOUR PRODUCTS WITH THE QUALITY LINE

Shipments of quality raw materials have been flowing from the VAN DYK factories for over half a century.

The years of experience in research and production have been utilized by skilled personnel to continuously supply the cosmetic industry with the materials essential to "**build**" the finest of finished products.

- **Sun Screens**
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- **Emulsion Stabilizers**
- **Industrial Masks**
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- **Perfume Compounds**
- **Foaming Agents**
- **Antioxidants**
- **Preservatives**

SINCE 1904 Van Dyk BELLEVILLE N.J.

"Let Us Help You Plan Them"

VAN DYK & COMPANY, INC.

9 WILLIAM STREET, BELLEVILLE, NEW JERSEY

O'Connell with Winthrop

Richard A. O'Connell has been appointed assistant to the director of the special chemicals division of Winthrop-Stearns Inc., according to Aaron Addelston, director. His principal duties will include supervising price quotations and expediting shipments of the division's line of bulk chemicals to the pharmaceutical, chemical and dye industries.

He had previously been with R. B. Davis Co.

New Gair Control Laboratory

The Robert Gair Co. has set up a quality control laboratory at its Pennsylvania Corrugated Box division in Philadelphia which will serve all 16 of its shipping container plants.

David E. Anderson, formerly with Seaboard Container Corp., has become manager of the laboratory and reports to Alfred W. Hoffman, head of container quality control.

This new laboratory take over many of the container quality control functions previously handled by Gair's research and technical service department at Uncasville, Conn.

New Colgate Office—Louisville

Colgate - Palmolive Co. formally opened its new office building in Louisville, Kentucky, on August 17. This two-story structure, with more than 300 clerical workers, is a billing and order-handling center for Colgate operations in 11 southern and middle western states, including Kentucky, Tennessee, Georgia, Alabama, Mississippi, Louisiana, Indiana, Ohio, Illinois, Wisconsin and Michigan. The new building will also handle a variety of clerical and accounting functions for the company's Jeffersonville, Indiana, plant which is located across the Ohio River.

Marshall S. Lachner, vice-president in charge of soap sales, and Hugh Jewett, vice-president, comptroller and secretary, of Colgate, attended the opening.

Ungerer Execs. in Europe

Kenneth G. Voorhees and Ivon H. Budd, president and first vice-president, respectively, Ungerer & Co., sailed for Europe on September 3. They will inspect the facilities of the Ungerer-Vidal Charvet Paris office and contact several of the company's European sources and customers. They plan to return early in October.

Holding cake, left to right: FDA Commissioner George P. Larrick; Dr. Ralph G. Smith, Associate Medical Director and Chief of New Drug Branch; and Bradshaw Mintener, assistant secretary, Department of Health, Education and Welfare. Cake was sent by Abbott Labs. to mark its new-drug application which happened to be FDA's 10,000th clearance. The first application was filed August 31, 1938, for Chatham Pharmaceuticals' Koagamin, a hemostatic agent.

van Ameringen, CIBS Speaker

A. L. van Ameringen, president of van Ameringen-Haebler, Inc. was guest speaker at the Cosmetic Industry Buyers and Suppliers during the September 8 meeting. He delivered a most interesting and informative talk on mental health, a subject which has been of lifelong interest to him.

A. L. VAN AMERINGEN

Van House Promoted by P-D

R. W. Van House, formerly associate Manager of process development, has been promoted to manager of the process development department, according to E. W. Walke, director of U. S. and Canadian production. He succeeds the late Ralph D. Hummel.

R. W. VAN HOUSE

McKeen Presents Drug to Spain

John E. McKeen, president of Chas. Pfizer & Co., donated 100,000 vials of dihydrostreptomycin to Spanish health officials on July 22 while visiting Spain during a tour of Western European countries. The one-gram vials, valued at more than one million pesetas ($25,000), were presented to Dr. F. G. Palanca, General Director of Health at a brief ceremony in the department headquarters.

Dempsey Resigns as S&D Pres.

William L. Dempsey has resigned as president of the Sharp & Dohme division of Merck & Co. but will continue as a director and consultant of the firm. John G. Bill, vice-president and general manager, has now become chief executive officer of the Sharp & Dohme division.

Mr. Dempsey became a general partner of the investment banking firm, Drexel & Co., Philadelphia, on September 1.

Appointed by P-D

Arthur N. Sorenson, field manager for the Seattle branch, has been appointed assistant to the manager of the promotion department, Parke, Davis & Co., according to Graydon L. Walker, vice-president and director of U. S. and Canadian sales and promotion. He will assist Walter L. Griffith, department manager, in general promotion activities.

Annual Sales Clinic

The fifth annual sales clinic, sponsored by the Salesmen's Association of the American Chemical Industry, will be held at the Roosevelt Hotel, New York, October 24, in conjunction with that group's annual dinner. The general theme of the clinic will be "Effective Selling of Chemicals."

Burdick Retires from Dow

Edward C. Burdick, director of the Dow Chemical Company's patent department for the past 18 years, and widely known in his field as a specialist in chemical patents, has retired after nearly 40 years of service with the company.

He has been succeeded by William M. Yates who had been assistant director since last February. Mr. Burdick will continue to serve Dow, in his new capacity, as a consultant, according to Calvin A. Campbell, vice-president and general counsel.

Richardson Named by Squibb

Carlos E. Richardson has been appointed to the advertising and market department of E. R. Squibb & Sons division, Olin Mathieson Chemical Corp. He has been a sales representative for the company since 1946.

J. F. RYAN

Ryan with Pitman 30 Years

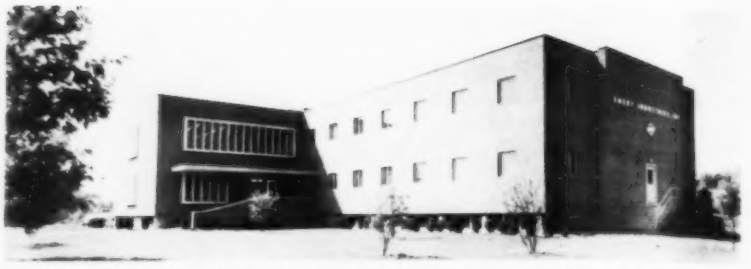
J. F. Ryan recently observed his 30th anniversary as a medical service representative for Pitman-Moore Co. During this 30-year period he maintained a top-volume territory, showing steady gains in spite of reductions in sales area, according to S. E. Ruch, sales manager.

Walsh Named Exclusive Agent

The John D. Walsh Co. has been appointed exclusive representative and selling agent for H. Reynaud & Fils in Montbrun-les-Bains, France. Walsh is now in a position to offer a complete line of French oils to the essential oil industry.

Promoted by Anatole Robbins

Alice Hickey has been promoted to southern district manager of Anatole Robbins, Inc., according to Donald A. Breyer, president. She was formerly a member of the company's sales staff.



New Twitchell Memorial Laboratories of Emery Industries, which was dedicated to Dr. Ernest Twitchell, Emery's first research chemist. Building contains 28 individual laboratories which will be used for developing new and improved products and processes in the fats and oils field.

Claiborne Promoted by Squibb

Henry C. Claiborne, formerly assistant branch manager in Atlanta, has been appointed branch manager in St. Louis of the E. R. Squibb & Sons division of Olin Mathieson Chemical Corp. This position was previously held by Jon L. Bankes who has assumed similar duties in Kansas City.

Reilly Sells Newark Plant

Reilly Tar & Chemical Corp. has sold its Newark, N. J., plant to Pitt-Consol Chemical Co., a New Jersey subsidiary of the Pittsburgh Consolidation Coal Co. Eastern customers of Reilly will be served by the Eastern division sales office at Tuckahoe, N. Y. Manufacture and sale of such products as petroleum-derived cresylic acids, phenolic resins and molding powders, will be continued at the Newark plant by the Pitt-Consol Chemical Co.

Ulmer Promoted by Armstrong

Robert M. Ulmer has been appointed manager of glass containers sales for the Armstrong Cork Co., according to Roger H. Hetzel, general sales manager of Armstrong's glass and closure division. He succeeds P. S. Holmquest who has resigned. Mr. Ulmer had formerly been assistant manager of glass container sales.

ROBERT M. ULMER

Reiss with Realistic Co.

Carroll R. Reiss has been appointed technical director of research and development of the Realistic Company, manufacturer of permanent wave and shampoo products, according to K. R. McKowen, president. He will be directly responsible for the product development and research programs. He had formerly been with the Procter & Gamble Co.

CARROLL R. REISS

Witco, Sales Rep. for Emulsol

Witco Chemical Co. has been selected as technical sales representative for Emulsol Chemical Corp. in the California area for its surfactants.

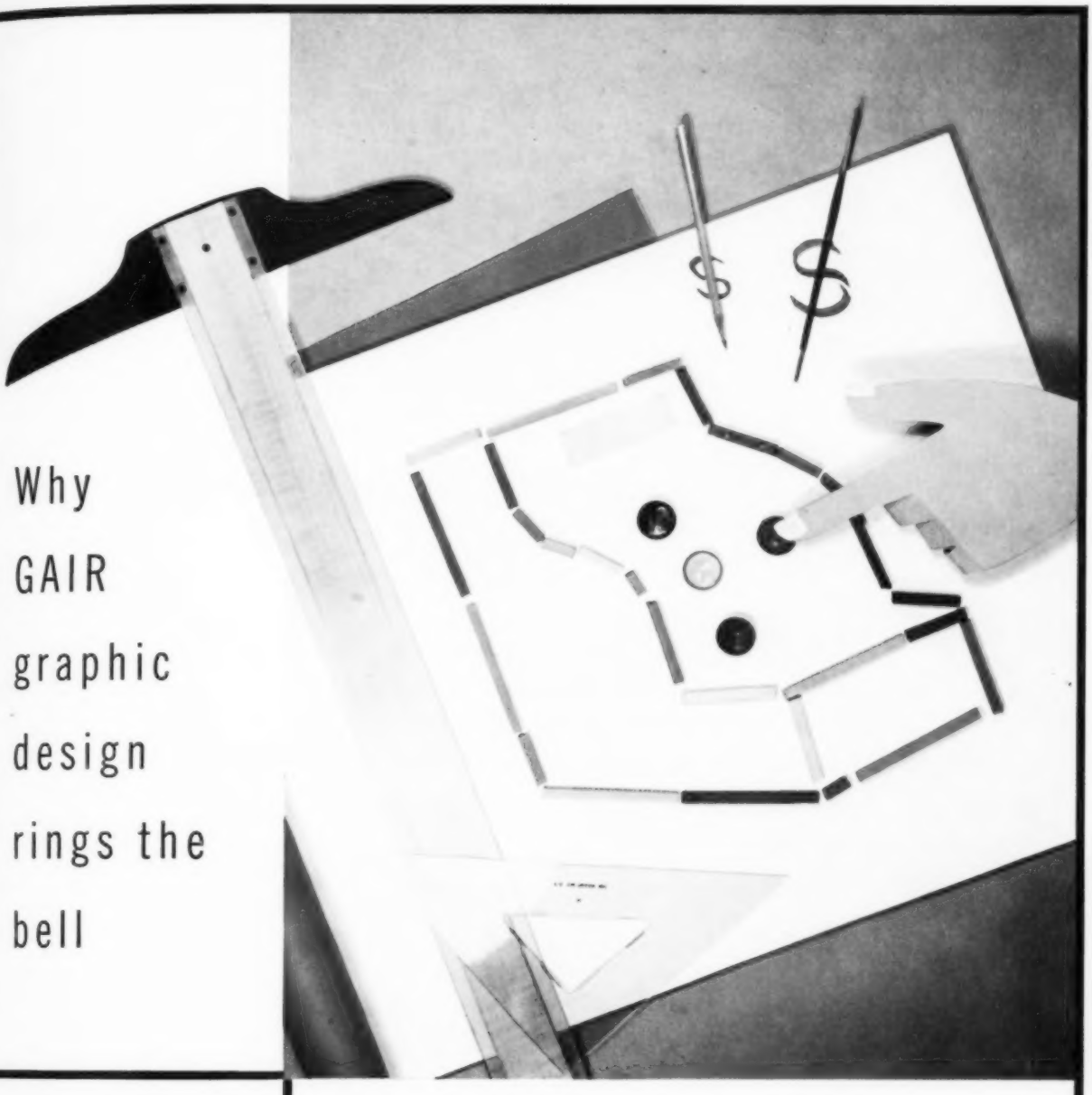
The W. G. Wunderly Co., Pasadena, Calif., and F. M. Speekman Co., San Francisco, will provide the Emulsol technical sales and service in Southern and Northern California, respectively, in the agrichemical, food, cosmetic and mining industries.

Pacini Named V.P.

Dr. August J. Pacini has been appointed vice-president in charge of research for the Pearson Pharmacal Co. and the Vita Laboratories, Inc.

Forster at New Address

Renee Forster & Co. Inc. has moved from 920 Broadway to 432 Fourth Ave., New York 16.



Why GAIR graphic design rings the bell

Graphic design makes the big difference between a carton that carries your product and one that *sells* it.

At Gair we make sure our designers look past their chalks and watercolors to the cash register that hands down final judgment on any carton's graphic design.

Our way of making sure is Gair Package Analysis*. This study of your market, distribution and product gives Gair artists a line on the kind of graphic design that rings a bell with your customers.

Any good carton designer can make color do tricks on paperboard. But a Gair graphic designer knows which tricks *pay off*.

**Gair Package Analysis* is a service designed to uncover the requirements of a successful carton for your product and your market. One of our men will be happy to give you the whole story.

SINCE 1864

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creative engineering in packaging

FOLDING CARTONS • SHIPPING CONTAINERS
PAPERBOARD • KRAFT BAGS AND WRAPPINGS

ROBERT GAIR COMPANY, INC.
155 EAST 44TH STREET
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THERE'S *Merchandising Magic* . . . . IN GLASS AEROSOL

New success stories of self-spraying packages are being written daily. What about your product? If now marketed in liquid form, it may gain new sales appeal and value when offered in pressurized containers. And you need not invest a penny in equipment or personnel; we can take care of all filling, storing and shipping. Write for free folders . . . *now!*

CONTINENTAL OFFERS:

Complete Filling Service

We do not merchandise any products of our own. Our sole operation is contract and custom filling of containers with *your* products . . . liquid, pressurized or aerosol . . . in glass or cans.

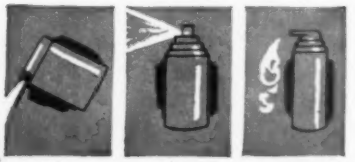
Extensive Laboratory and Production Facilities

Continental conducts chemical analysis and continuing research on dispensing methods and containers. Filling equipment is the finest in the industry, geared to handle orders of any size. Quality control and inspection safeguard your shipments.

Warehousing and Drop Shipping in Bulk Lots

Extensive storage space permits you to use our two centrally-located plants as nation distribution points, with consequent large savings on freight costs. We handle shipping and paper work. Your orders are ready when you want them.

CONTRACT AND CUSTOM FILLING



LIQUID *SPRAY* *FOAM*

MAIN OFFICE • 123 NORTH HAZEL STREET, DANVILLE, ILLINOIS

CONTINENTAL FILLING CORPORATION

PLANTS • DANVILLE, ILLINOIS — HOBART, INDIANA

Perry Moves to New Building

Perry Brothers has expanded its facilities and moved to its new building at 61-12 32nd Ave., Woodside 77, N. Y. The telephone number is RAvenswood 1-3636.

The building contains the office, laboratory, production and warehouse facilities.

New building of Perry Brothers at 61-12 32nd Ave., Woodside, L. I., which contains office, laboratory, production and warehouse facilities.

New Plant for Hazel-Atlas

Hazel-Atlas Glass Co. is planning to build a new plant on a 75-acre tract of land now owned by the firm on the outskirts of the town of Plainfield, Ill. It is scheduled for completion in the early Fall of 1956. This new Chicago area plant is another step in the company's over-all program to meet changing methods of distribution and the servicing of important markets.

Bennett with Clark-Cleveland

Berkeley V. Bennett, formerly head of public relations for the National Wholesale Druggist's Association, has been appointed sales manager of Clark-Cleveland, Inc., according to R. Crosby Coughlin, vice-president and general manager.

BERKELEY V. BENNETT

Homewood with J. T. Baker

G. Morgan Homewood, Jr., has been appointed marketing research manager of J. T. Baker Chemical Co., according to Dr. E. C. Larsen, vice-president. He had previously been a market research member of the Atlas Powder Company's planning staff.

With Julius Schmid

Clarence B. Taft has been appointed director of product development, Julius Schmid, Inc., and Dr. B. Thurber Guild, medical director. Mr. Taft was formerly associated with Schenley Laboratories as vice-president in charge of product development and Dr. Guild, formerly associate medical director of Winthrop-Stearns.

Felton Expands in Mexico

Felton Chemical Co. has expanded its distribution facilities in Mexico by moving into new and larger quarters in Mexico City at Bahia de Todos Los Santos No. 174-A.

Felcomex, S. A., Felton's Mexican operations, is launching a new merchandising plant to increase the volume of sales of Felton products in that country.

Lilly Appointments

David B. Noland has been promoted to manager of Eli Lilly & Co.'s new communications department, while Eli P. Messenger has been assigned to manage the reorganized training department. The communications department will publish The Lilly Review, a magazine distributed to employees, and the newspaper, Management Report, which is for supervisory personnel.

Pfizer Labs. Appointments

Howard P. Hartwell has been appointed manager of the Minneapolis district by Pfizer Laboratories, division of Chas. Pfizer & Co., according to George Guess, sales manager. James H. Stobie has been named manager of the Buffalo district, and Leo A. Spengler, the Des Moines, Iowa, area.

Squibb Appointments

Karl Emans, formerly Los Angeles branch manager, E. R. Squibb & Sons division of Olin Mathieson Chemical Corp., has become branch manager in San Francisco. He succeeds Elmer J. McGuire who has been appointed consultant for branch operations.

Appointed by Nat. Aniline

Cornelius C. Coakley has been appointed director of operations of National Aniline division, Allied Chemical & Dye Corp., according to Milton A. Conner, vice-president. James F. Daly has succeeded Mr. Coakley as manager of National's Buffalo plant.

Bristol-Myers Buys Kimball

Bristol-Myers Co. has taken over Kimball Manufacturing Corp., maker of reinforced plastics products in San Francisco. The new subsidiary will continue under its present name, with William R. Kimball, Jr., remaining as president.

Elias, V.P., McKelvy

Albert J. Elias, merchandising director, has been appointed vice-president of the Alfred D. McKelvy Co., according to Patrick H. Gorman, president. He will continue in his former capacity in addition to the duties of his new office.

ALBERT J. ELIAS

Fisher with Interdonati

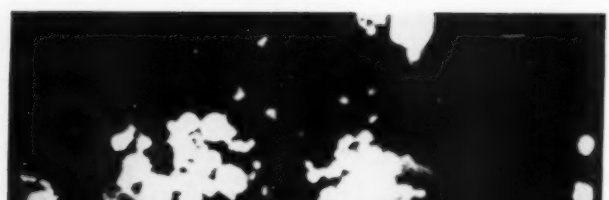
Bernard M. Fisher, formerly assistant director of the special chemical division of Winthrop-Stearns, Inc., has been appointed manager of the special chemicals department of Henry Interdonati, Inc. He will handle sales of domestic and imported pharmaceuticals, as well as fine and industrial, chemicals.

Marquard with Anatole Robbins

Peter J. Marquard, formerly general sales director for Elizabeth Arden Sales Corp., has been appointed national sales director of Anatole Robbins, according to Donald A. Breyer, president.

WHICH MAGNESIUM TRISILICATE DO YOU NEED?

››› Baker offers drug and pharmaceutical manufacturers 4 different types of Magnesium Trisilicate.



Free flowing Magnesium Trisilicate greatly magnified.

SEVEN SPECIAL ADVANTAGES OF

Baker Magnesium Trisilicate, U.S.P. Free flowing, Medium Powder

FREE FLOWING • MIXES READILY

UNIFORM PARTICLE SHAPE

LESS DUSTY • CAN BE DRY-SLUGGED

COATS EVENLY • FEEDS UNIFORMLY

Available in 25 and 100-pound containers.

Bibliography Available

FREE FLOWING, MEDIUM POWDER

MEDIUM POWDER

LIGHT POWDER

EXTRA LIGHT POWDER

››› Baker *free flowing* Magnesium Trisilicate, a medium-density powder with spheroid particle structure, has won quick acceptance. It is especially adaptable to tablet manufacture or other uses where moderate bulking properties are required. This material can be wet-granulated, or dry-slugged with resulting economy.

Some manufacturers find that a lighter Magnesium Trisilicate, with lower bulk density, better suits particular formulations or equipment. You have a further selection with Medium Powder, Light Powder, or Extra Light Powder.

The big point is that Baker offers all four popular types of Magnesium Trisilicate. And all four fully meet the acid consuming capacity and other requirements of the U.S. Pharmacopoeia XIV.

Which Magnesium Trisilicate best fills your needs? Ask for samples for testing. If special physical or chemical specifications are required, perhaps we can manufacture your Magnesium Trisilicate to your own standards. We do this for companies who can order in sufficient volume. Simply address J. T. Baker Chemical Co., Phillipsburg, New Jersey.

Baker

Baker Chemicals

REAGENT • FINE • INDUSTRIAL

JOSEPH I. LISAIUS

LEONARD J. VIOLA

Lisaius in Schering Post

Joseph I. Lisaius has been appointed merchandising coordinator for Schering Corporation's domestic sales division.

Named McKesson Senior V.P.

F. Dean Hildebrandt, manager of the chemical distribution department, McKesson & Robbins, Inc., has been elected a senior vice-president, according to George Van Gorder, chairman of the board.

Givaudan Market Dept.

Givaudan-Delawanna, Inc. has established a market development department through which it plans to inform the industry of its new products and developments. A. T. Fiore has been named manager.

Brent Joins Denver Chemical

Dr. Bernard J. Brent has been appointed director of chemical and clinical research of the Denver Chemical Mfg. Co., Inc. He had previously held similar positions with Hoffmann-La Roche, Inc., Organon, Inc., Warner-Hudnut, Inc., and Reed & Carnrick.

Owens-Ill. Appointments

Lee Richardson, Seattle branch manager of the Pacific Coast division of Owens-Illinois Glass Co., has been named general sales manager at San Francisco, according to K. C. White, vice - president and division general manager.

Robert Blowney, formerly assistant Seattle branch manager, has succeeded Mr. Richardson as branch manager.

Hardwicke Joins Shulton

James Hardwicke, Jr. has been appointed senior organic research chemist in the organic research and development section of Shulton Chemical Laboratories. He had previously been associated with Tennessee Eastman Co.

Named by Caryl Richards

Leonard J. Viola has been appointed director of research and development for Caryl Richards, Inc., according to George Barrie, president.

Jordan Leaves Lanolin Plus

W. A. Jordan left Lanolin Plus, Inc. on September 1. He will announce his future plans in a short time.

Ralph D. Hummel

Ralph D. Hummel, 57, manager of process development for Parke, Davis & Co., and his son, Ralph, Jr., 13, were killed in an automobile accident in late July near Vancouver, British Columbia. His wife was critically injured. The tragedy occurred on a vacation trip.

Mr. Hummel joined Parke-Davis in 1920 in the chemical department and 2 years later was promoted to assistant manager of the chemical department. He became manager of the process development department in 1946.

Joseph M. Nester

Joseph M. Nester, president of Obear-Nester Glass Co., and past president of the Glass Container Manufacturers Institute, Inc., died at Barnes Hospital, St. Louis, on August 22, following a five-month illness. He was 37 years old. He had been president of Obear-Nester since 1949, and Lincoln Container Corp. of Lincoln, Ill., since 1952.

William Schilling Jr.

William Schilling, Jr., an officer and secretary of Norda Essential Oil and Chemical Co., died July 15 at 63 years of age. He had been with Norda for 25 years and had served as president of both the Vanilla Bean Association and the Essential Oil Association of the U. S.

He is survived by his wife, Elizabeth; a daughter, Madeline Kienke; and a granddaughter, Suzanne.

Dr. William J. Hale

Dr. William J. Hale, a research consultant with the Dow Chemical Co., died on August 8 after a brief illness at 79 years of age. One of the nation's leading organic chemists, he was known as the "father of chemurgy."

While an instructor in chemistry at the University of Michigan in 1904, he met the late Dr. Herbert H. Dow, founder of the company, and they became associated in research that led to quantity production of chemicals.

Dr. Hale married Helen Dow in 1917, the eldest daughter of Dr. Dow. He resigned a chemistry professorship at the University of Michigan after her death the following year to become a director of the Dow organic research laboratory.

Shortly before his final illness, Dr. Hale returned from Europe where he had visited his only daughter and her husband, Wiley T. Buchanan, Jr., United States Ambassador to Luxembourg.

Earl Berger Putt

Earl Berger Putt, the last surviving original member of the firm, Seil, Putt & Rusby, consulting chemists, New York, died July 30 in Englewood, N. J. He was 69 years old.

Francis J. Stokes

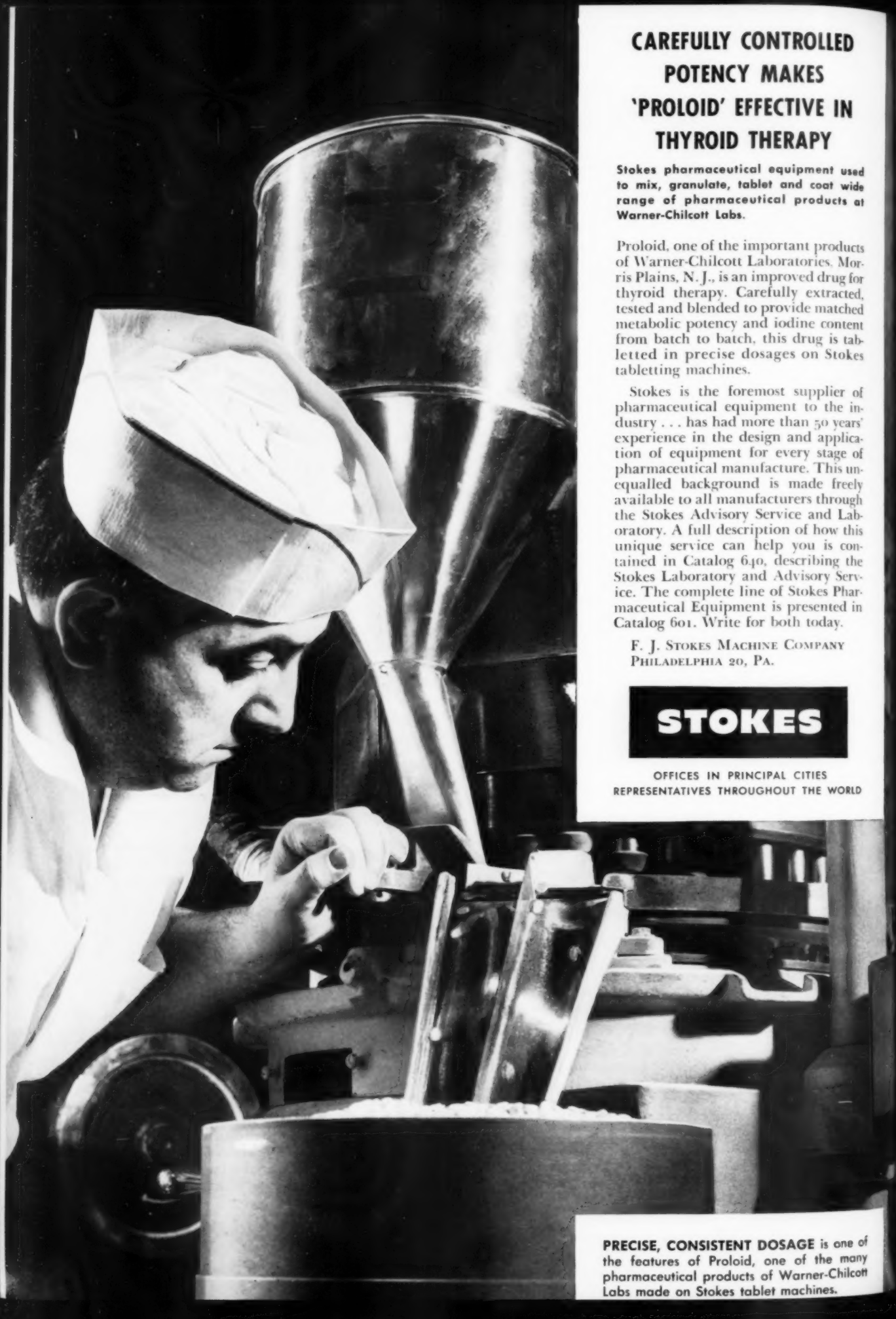
Francis Joseph Stokes, founder and chairman of the board of the F. J. Stokes Machine Co., died August 1 in Germantown Hospital, Germantown, Penna., at the age of 81. He had served as president of the company for 53 years before being named chairman of the board in 1948.

After graduating from Haverford College in 1894, he became an apprentice machinist to Robert Shoemaker of Philadelphia. A year later, he purchased Mr. Shoemaker's business and operated it from then on as the F. J. Stokes Machine Co.

He is survived by his widow, Lelia Woodruff Stokes; four sons, F. Joseph Jr., Allen, Henry and David; a daughter, Mrs. Paul B. MacLean; and nineteen grandchildren.

Helen Stratton

Helen Stratton, secretary-treasurer of the Packaging Machinery Manufacturers Institute, died at the Misericordia Hospital, New York, on July 26. She was 62 years old. Miss Stratton had been secretary for the PMMI since its inception as an organization in 1935.



CAREFULLY CONTROLLED POTENCY MAKES 'PROLOID' EFFECTIVE IN THYROID THERAPY

Stokes pharmaceutical equipment used to mix, granulate, tablet and coat wide range of pharmaceutical products at Warner-Chilcott Labs.

Proloid, one of the important products of Warner-Chilcott Laboratories, Morris Plains, N. J., is an improved drug for thyroid therapy. Carefully extracted, tested and blended to provide matched metabolic potency and iodine content from batch to batch, this drug is tabletted in precise dosages on Stokes tabletting machines.

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PRECISE, CONSISTENT DOSAGE is one of the features of Proloid, one of the many pharmaceutical products of Warner-Chilcott Labs made on Stokes tablet machines.

Management Forum

by Francis Chilson
INDUSTRIAL CONSULTANT

World Tour

I have just finished a business trip around the world in less than thirty days of which, more than half were devoted to engineering projects that I have going in Australia and England. I visited Australia, Indonesia, Burma, Malaya, India, Pakistan, Egypt, Italy and England. It's a fast world we're living in. Actually, if one didn't have to make any stop-overs, the world could be circumnavigated in a week's time on commercial aircraft. To make such a trip in so short a space of time makes one realize that there is no validity in a foreign policy or in security measures that are based upon isolation or distance. The fact is there is no isolation any more and no place is really distant from any other place.

A second realization derived from my trip is the knowledge of my desolating moral force. You can call me Billy Graham Chilson from now on. It all began in 1947 when I first visited Paris (although I didn't realize it then). I visited Paris for the first time in a state of eager pruriency. I expected delectable debauchery of all kinds, an expectation born of the tales I had heard from returning troops of World War I. When I put in an appearance, Paris was as respectable as a church. The Sphinx was closed; the House of All Nations was closed; the whole bloody place was closed, and these two famous sinks of iniquity were being used as dormitories for students of the Sorbonne! Paris turned out to be like Zion City, Illinois, on a Sunday afternoon.

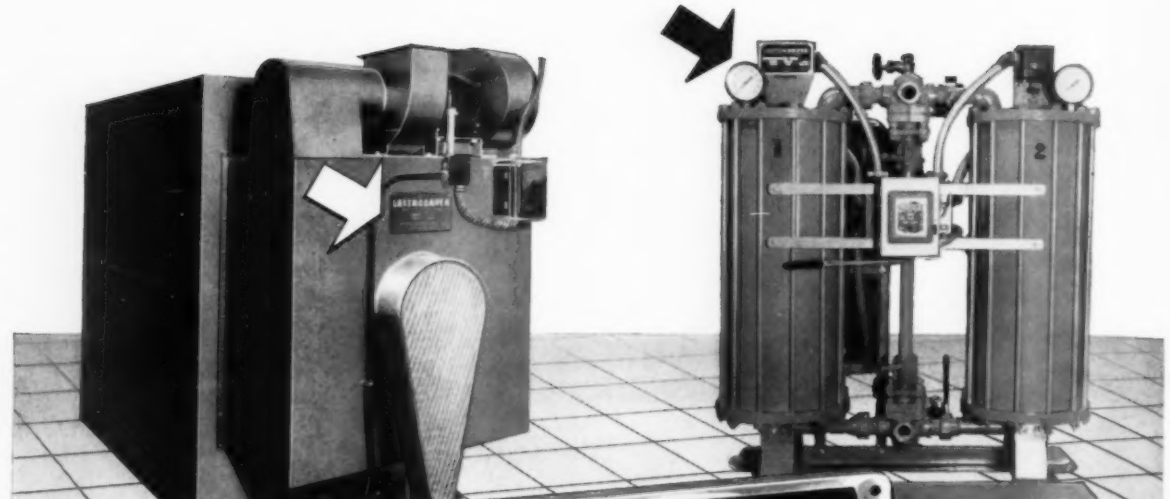
And so it was when I visited the French Quarter in New Orleans some years later. All the wickedness in the world simmered and bubbled in the sinful cauldrons of that hell's kitchen so I was told. But again the adumbration of my cold, chilling moral force blew out the hell fires under the cauldrons, and they were polished as clean as the stew pots in the kitchen of the "21" Club by the time I showed up. Ain't it hell?

But that left Singapore which I had looked forward to visiting some day, and about which I had read much, when I was a boy, in the novels of E. Phillips Oppenheim. Mysterious, sinful, wicked! Surely the withered, blighting hand of Puritanism could never extend that far. But it did—or I did. When I arrived in Singapore all I got was the smell—the omnipresent smell of the orient, a compound of sewer gas, attar of roses, garlic, spices and dirty bodies, a cloying stench that sticks in your nostrils for days. I was taken around Singapore into a number of erstwhile dives and my tour was as wicked and as exciting as spending the night in Aimee Semple McPherson's temple. Again my desolating moral force had preceded me and laid the town flat.

Surely to God, I thought, Cairo can't be like this. There must be some place in the world where salubrious sin is committed in all its attractive as well as repulsive forms. So on to Cairo. I was met at the airport by the head of the Egyptian news services and a major in the Egyptian army. Under such auspices I was sure all doors would be opened unto me. I would witness iniquity in its most depraved forms if all the stories I had heard were true. They *were* true once. (Notice the past tense.) Cairo is as wicked as a Sunday school picnic. The army has cleaned out all the joints and even the belly dancers wear more clothes than the strip tease "artists" in Chicago.

That leaves only Bierut, Hamburg and Copenhagen. So if you want to witness sin in the raw you had better visit these places before I show up, otherwise they will have become as pure as the driven snow—or as pure as me, whichever simile you prefer. Dammit! How am I going to repent of my sins when I can't even catch up with them?

One of the outstanding impressions of my trip was the realization of what a rotten, revolting name "capitalism" is in the minds of the people of the East. To them capitalism means the possession of all wealth, all land, all power by a few unscrupulous autocrats and usurers, who keep people in slavery by a rent and



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Remember the word LECTRODRYER when you need DRYing help. For a free copy of the book, *Because Moisture Isn't Pink,* write Pittsburgh Lectrodryer Corporation, 309 32nd Street, Pittsburgh 30, Pennsylvania.

In England: Birlec, Limited, Tyburn Road, Erdington, Birmingham.
In France: Stein et Roubaix, 24 Rue Erlanger, Paris XVI.
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loan system that requires the payment of interest rates up to seventy-five per cent. Capitalism means to them hunger for all but a few and starvation for many. It means to the many a life of unremitting toil; life in filthy hovels, omnipresent disease and dirt. Free enterprise means no more. In fact "free" means nothing to people who have never been free. "Enterprise" means nothing to people who have known no enterprise but to oil endlessly for rich landowners, usurers and merchants.

These impressions were fixed in my mind when I pointed out to the head of the Egyptian News Service that capitalism meant to us in America a practical form of social service in which the wealth of the country was being distributed to everybody through high taxation on the one hand and high wages on the other. He then asked:

"Why then are you people so afraid of socialism and of communism?" I told him we weren't afraid of either "ism." We have common sense enough to know that under true socialism, where land and the means of production are owned by the government, the people in the mass would get very little because governments, operating through bureaucracies, are everywhere incompetent—including our own; that communism was anathema to us, because under that system, not only does the government own everything but that men's bodies and souls belong to the state as well. I said that socialism had not worked in England and that communism is not working in Russia. Neither system would ever work anywhere. I told him further that in America so-called private companies are owned by millions of stockholders; that many gigantic corporations are operated by professional managers and have no owners at all apart from an army of relatively small stockholders. I cited the case of the American Telephone & Telegraph Company and Sears Roebuck, where ownership almost in the entirety rests in the hands of its employees. All this surprised my friend. It was an aspect of America he hadn't realized in spite of the fact that he had read of the millions of homes and motor cars owned by ordinary American workmen. He hadn't read nor had anybody told him, how it is that all these homes and motor cars and washing machines and refrigerators and God knows what else besides, representing capital of countless billions of dollars, comes into the possession of all these working people. That's our real story.

In short it is my impression that our propaganda to the world is lousy; certainly it isn't anywhere nearly effective as that of the communists. As I have said before in this column we need a new word to describe our system and it isn't "capitalism"—that's for sure—and it isn't "free enterprise" either. That's equally meaningless too.

The people of the Near East and of Europe too, think that all the tens of thousands of tourists, who travel over their countries are all millionaires, otherwise they couldn't afford to travel so far, and the tourists do nothing to disabuse their hosts of this illusion. My Egyptian friend was astounded when I told him that a majority of these tourists are typists, secretaries, nurses and teachers back home—just ordinary folk who have saved up enough to take a trip abroad. In bewilderment he asked "How is it possible? Such people in my country couldn't afford long trips." I told him that this was one of the benefits of the American system. Ordinary people didn't have to work the whole time just to make enough to live on.

It is my opinion we have a propaganda job to do and it is not being done effectively by the Voice of America or the publications we distribute abroad. We cannot fight communism or any other ism with bullets or bombs. Ideas can be fought only with other, better ideas clothed in words that foreign people understand.

England is still muddling through, in spite of the fact that the time for muddling passed with the concluding shot of the war. There is total employment in England but there isn't total production, not by a damn site. English industrialists are hog-tied by a lot of silly government restrictions and by as stupid a set of unpatriotic trade unions as exist anywhere in the world. Only a relatively few of the business community seem to realize that England must become, not only as efficient as any country in the world, but far more so than any other. Lacking basic resources and colonies that can be exploited, she must develop a degree of industrial and marketing efficiency that has no equal in the world. English newspapers scream about the threat of German competition in the world markets; they scream about Japanese competition; they scream about our competition. Soon they'll be screaming about Russian competition. It will take more than screaming to keep them going. The British have the basic genius to continue doing original things as they have in the past. Some of the engineering equipment for example turned out in England is the best and fastest in the world, but it must also be said that some of the stuff she turns out is among the worst in the world. Her performance is spotty. It annoys the English when you tell them they are not as efficient as they must be as industrialists and as world market exploiters. It is a fact that one sees a lot of German cars on English roads and a recent survey revealed that sixty per cent of all pharmaceuticals sold in England are American products, made either in the States or by American firms domiciled in England. When you drive through English industrial districts you are amazed by the number of American factories you see operating there. If the English entrepreneurs were on the job before and after the war how could we have invaded their home market so successfully? In the pharmaceutical industry they were never able to invade our market, either directly or by establishing companies here. The number of English companies operating in the drug and cosmetic industries here can be counted on the fingers of one hand.

In spite of the need to build new, efficient plants Rab Butler, chancellor of the exchequer did a stupid thing when I was in England. He raised to 60 per cent down payments on all "hire purchase" plans (installment plans to you) and placed additional curbs on industrial building. His reason was fear of inflation. How capital investment in new plant affects inflation I'm buggered if I know. When individual credit is carefully checked I can't see why installment plans here or in England have anything to do with inflation. All industries operate on the installment plan. They all borrow against future earnings to make immediate investments. They make short-term loans, long term loans; they issue bonds and recallable preferred stock. That's buying on the installment plan and is not a bit different in principle from the action of Joe Doakes, when he puts down twenty-five bucks on a new washing machine, and agrees to pay two dollars a week for the next ninety weeks to pay off the balance. But maybe Butler knows best.

England must also get rid of the caste system in industry. Over there a director speaks only to other directors and collectively they speak only to God and the Queen. When a director gives a directive to a subordinate, the subordinate will say "yessir" and carry on even though he knows the director is wrong. I'm having a hell of a time getting my colleagues to fight back when the directors give them orders which they know are wrong or not in the best interest of our project. I'm having a hell of a time with a stiff-necked, old-school-tie British architect who considers it beneath his dignity to deal with anyone lower than a director. I had to urge the directors to tell the architect in no uncertain terms that he had to deal with and through the chief engineer of the firm whether he liked it or not. He didn't, but he now has no alternative.

In Australia things are different. The Aussies will fight back at their directors when they know they are wrong. Directors in Australia are a different lot entirely; they are very much like our own directors. I must say parenthetically that both in Australia and in England virtually all directors are senior executive officers and are directly responsible for the management of their several divisions. In our country many of our directors, if not most of them especially in the larger companies, have no executive duties at all. I enjoyed my trip to Australia in spite of the fact that my colleagues worked hell out of me all day and entertained hell out of me all night. They are a tough lot, these Aussies, more like Americans in attitude and outlook than any other people in the world. Australia, in its immense territory, richness and variety is more like America than any country I have ever visited. The population of Australia has increased by more than a tenth since I was there in 1947. Everyone is working like mad and the streets of Sydney and Melbourne are a vast traffic tangle like our own. The future of Australia is very bright indeed. You should plan a visit there. In the meantime if you are planning to build a plant in Australia get hold of my colleague, Don Graeme Lumsden (no relation to Billy Grahm—no indeed!) who is the best industrial architect I ever worked with. He has wide experience, sound training, youth, imagination and flexibility. When I say that about any architect he must be damn good. His address is 100 Powlett St., East Melbourne, Australia.

Some time ago I was instrumental in assisting an Egyptian army pharmaceutical mission that visited this country. I didn't then realize they were high ranking officers of the Egyptian army. I cabled them that I planned to visit Cairo on my way from Australia to London. I was met at the airport and royally entertained all over Cairo. Later in the day I was received by General Hossien El Halawani and by him was shown all round the military academy and taken to visit some industrial installations sponsored by the army. Although Egypt is a dictatorship controlled by the army, the army officers I met are a sincere, dedicated lot, anxious to build up Egypt's industrial potential. They are very anxious to attract American industrial capital and are willing to establish jointly owned enterprises in which control would be vested in American hands and the remainder would be represented by private Egyptian capital. I'll be glad to furnish additional information to anyone who is interested.

I left Cairo, entertained to a frazzle. When I stopped over in Rome I could do nothing but sit at a cafe table along the Via Venuto and sip restorative drinks. I had visited Rome before and had looked forward to seeing some old friends in the pharmaceutical industry. But I didn't even look them up. I'd had it as the English say.

New Penfield Demineralizer

The Penfield Manufacturing Company of Meriden, Connecticut, has added a new, completely automatic Mono-Column Demineralizer to its line of industrial demineralizing equipment. It is designed for users of 200 GPH of super high purity water.

The new Penfield MA-200 Demineralizer is an exceptionally compact, completely packaged unit, requiring for its installation a minimum of floor space, connection of influent to a plant's water system, and connection of effluent to those points where high purity water is required (process, boiler feed, etc.).

Raw water enters the demineralizing unit at the influent and after passing only once through the mono-column of mixed cation and anion resins, is received at the effluent stripped of all its impurities. A Flow Meter on the influent enables setting water intake at an optimum rate for the most efficient ion exchange action and a Penfield Electric Purity Meter plus automatic controls enable automatic control of the purity of the effluent.

Thus, once a Penfield MA-200 Demineralizer is installed, all operating functions, including the regenera-

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Whether your product is a sticky powder, free-flowing granules or hard-to-manage flakes, the versatile Model HG-86-87 Automatic Filler will reduce your packaging costs by increasing accuracy of fill at high speed. It fills cans, jars or cartons by volume, gross weight or auger-vacuum in sizes ranging from 1½" to 6" wide, 1½" to 4" thick, and 1½" to 8" high. It is ideally suited not only for spices and other foods but for drugs and cosmetics as well.

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tion cycle, become completely automatic. There are no valves to operate and minimum supervision is required. Whenever the effluent's conductivity falls below standard, the treated water is automatically discharged and lights (or other warning system) signal the need for activation of a regeneration cycle.

The simple turn of a single switch then puts the unit through its regeneration cycle automatically, including rinsing and recutting in the effluent when desired resistivity (purity) is reached. During this automatic regeneration cycle, the regenerative tanks are automatically refilled with water so that fresh acid and caustics may be added in preparation for the next regeneration cycle.

Detailed catalog information on Penfield's full line of Mono-Column and Multi-Column Demineralizers—completely packaged units available in a wide variety of capacities ranging from 10 GPH to 2,000 GPH and up—may be secured by writing Mr. Edward H. Clohessy, General Manager, Penfield Manufacturing Co., Inc., 19 High School Avenue, Meridan, Connecticut.

Random Notes

New Jersey Machine Co., 16th & Willow, Hoboken, N. J. announces a new bulletin dealing with the Pony Express (automatic rotary pony labeler).

Rapids Standard Co., Grand Rapids 2, Mich. announce a new lightweight Flow Track portable conveyor section.

Arthur Colton Co., Detroit 7, Michigan, announce a new bulletin describing their multiple layer automatic rotary tablet press.

Ironbound Box & Lumber Co., Hillside, N.J. announce a variety of iron bound bin and material handling trucks.

Container Stapling Corporation, Herrin, Ill. announce an automatic trip case stapling machine that clenches staple and retracts when the carton is tapped against the stapling head. The machine has no foot switch, no solenoids, relays, no mechanical cable. It is operated by compressed air.

Sweco, 4800 Santa Fe Ave., Los Angeles 58, announce a new screening catalogue.

Popper & Sons, 300 4th Ave., New York 10, announce the Perfectum tablet counter which counts and fills all manner of tablets and pills.

Storage Equipment

More than two dozen new ideas in space- and time-saving storage equipment are presented in a 16-page illustrated color catalog just released by The Frick-Gallagher Manufacturing Co.

Described are racks, bins, carousel or rotary bins, shelves, and pallet frames for more efficient, more orderly storage of countless materials. Both product and in-use photographs, general description and specifications are provided. Altogether more than 120 models are listed.

Free copies mailed on request. The Frick-Gallagher Manufacturing Co., 110 So. Michigan Avenue, Wellston, Ohio.

Plastic Pallets

A new type of materials handling pallet weighing only 28 pounds is molded of Bakelite polyester resins reinforced with Fiberglas to support 3,000 pounds of working load. High strength at low weight combined with resistance to wear, abrasion and impact provide means for lowering operating costs in materials handling. Resistant to oils, grease, acids and alkalies, Bakelite polyester resins molded into the new pallet have a surface that is easy to keep clean and sanitary by steam sterilizing at temperatures up to 325 deg. F. Molding the pallet of reinforced plastic eliminates the need for nails or fasteners which can loosen and damage a cargo. Nine hollow legs molded in one strong piece with the platform they support are spaced to allow a four-way approach for fork lift trucks.

Resting on the outside legs only the pallet is designed to support working loads of 3,000 pounds, or 200 pounds per square foot (top right photo). Nested together in the hollow legs, 100 of these pallets stack up to a height of only seven feet, eight inches, and occupy only 102 cubic feet of storage space. The strength of the reinforced plastic construction made with Bakelite polyester resins limits deflection even on an overload of 5,000 pounds with the pallet supported on forks, according to the manufacturer. Two pallets nested together have nearly double the strength of one and thus eliminate the need for heavy-duty units to manage extra-heavy cargoes. This flexibility and resilience permits rough handling without cracking and splintering the pallet. Strength and rigidity increase at sub-zero temperatures and the pallet is not affected by rot or rust. A range of colors is available, molded into the pallet, and safe from scratching or rubbing off. Pallet color can be used to identify different cargoes and help prevent accidental loss. High

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Solid Steel-Belt Conveyors

A 48-page, hard cover book giving extensive engineering and application information on Sandvik Steel-Belt Conveyors is now available on request from Sandvik Steel Belt Conveyors, Division of Sandvik Steel, Inc., Fair Lawn, N. J.

Fully illustrated with both photographs and drawings, the book is a thorough presentation on conveying via a solid steel band. It describes the basic features of the conveyor and the steel belt and details on characteristics, capacities, adaptations and design.

The properties of both stainless and carbon belts are discussed and a list of standard widths and thicknesses for both single and longitudinally jointed belts is given. The load capacities of various widths of belt as applied to specific types of materials are indicated. Information is given on conveying of materials with sharp edges, materials with rounded edges, powdered materials, plastic materials, charcoal, chips and sawdust, cases, packages and special applications.

Free copies of this permanently bound book are available on request from Sandvik Steel Belt Conveyors, Division of Sandvik Steel, Inc., 1702 Nevins Road, Fair Lawn, N. J.

Air Diffusers

Air movement and temperature control were two vital air conditioning problems in the pharmaceutical laboratories of G. D. Searle & Co., of Skokie, Ill., were Aminophyllin, Metamucil, Pro-Banthine, Dramamine and more than 25 other products are manufactured.

The Searle company found the answer to a number of their problems in a low velocity air diffuser manufactured exclusively by the Multi-Vent Division of the Pyle-National Company, 100 West Monroe St., Chicago.

Manufacturing pharmaceuticals in the form of powders, ampules, tablets and liquids, the Searle company has air conditioned areas totalling 150,000 sq. feet, where Multi-Vent is installed. When the first building of the plant was built in 1942, circular louvred overhead air diffusers were installed which resulted in direct drafts on lab technicians and high velocity air movement in areas where powders and tablets were processed. In some locations, this caused air suspension of the powders, endangering the health of employees in the area.

In 1946 when Searle was contemplating an addition to the plant, several different air diffusers were tested, including Multi-Vent, and after several tests under the most extreme conditions Multi-Vent was selected as ideal for the problem.

The success of the Multi-Vent air diffuser is proved by the fact that when the Searle company recently made a further addition to their plant the new section was similarly equipped.

Typical of the problems confronting engineers was one found in the experimental animal room, containing 5,000 live animals and measuring 100 x 45 x 11 feet. The desired temperature in this room was 72 degrees F. plus or minus two degrees. In addition, it was specified that there be frequent air changes to offset strong odors inherent in a room of this type.

Using 50 large Multi-Vent perforated panels, the condition of temperature was met with a differential of only one degree. The air in the room changed every ten minutes using 30 per cent fresh-air make up, giving a complete absence of strong air streams or blow, meeting the odor removal specifications.

In the experimental operating rooms, where drafts could change the result of an experiment on a specimen, the imperceptible but efficient air movement produced by Multi-Vent was found to be ideal for the work.

In the library storage room, partitioned into several compartments by book-shelves, the Multi-Vent panels were bisected several times by shelves. However, their efficiency was not hampered and there were no draft hazards or other undesirable air diffusion effects.

In offices and corridors of the plant where style and ceiling design were important, it was found that Multi-Vent, being recessed and therefore inconspicuous, enhanced the general architectural appearance of these areas.

Multi-Vent, diffusing air vertically and at low velocity, eliminated dirt impingement on walls and ceilings, doing away with expensive redecorating jobs. Searle maintenance men found it was only necessary to wipe off the metal Multi-Vent panels occasionally.

Searle air-conditioning crews find another advantage of the Multi-Vent air diffuser in an adjustable pressure displacement valve which can be set for delivery of various amounts of air without disturbing the balance of the over-all system.

Another advantage observed was that neither single panel adjustments, to suit occupants' special requirements, nor substantial reduction or increase of air capacity at the source to meet seasonal demands, adversely affected the desired air flow pattern.

In connection with the Multi-Vent diffusers, the Searle company uses York and Carrier refrigeration and custom-designed air-conditioning units. However, any air-source system will function equally well with Multi-Vent. Each floor or zone of the Searle plant has its own air-conditioning unit with cooling effect supplied by central refrigeration.

Other laboratories using Multi-Vent are Gulf Oil Corp. Testing laboratory, Chilcott laboratories, Smith, Kline and French laboratories, Dow Chemical Co. building, Argonne National laboratory, Owens Illinois Technical Center, University of California Virus laboratory and many others.

Tablet coating

BY RONALD CLARKSON—TABLET CONSULTANT

At Last—A practical, authoritative textbook on Tablet Coating!

This is the answer to a world-wide request for a down-to-earth book on this highly specialized technique.

The author, Ronald Clarkson, an outstanding tablet consultant, is well known in this country and abroad for his contribution to technical literature on Tablet Manufacturing. Co-author of the text book *Manufacture of Compressed Tablets*, he has also presented papers on various phases of tablet manufacturing before the APMA production meetings.

Since entering the consulting field he has been a contributor to *Drug and Cosmetic Industry*.

In his capacity as a consultant the author has been supplying coating instructions to his clients in various parts of the world at a substantial fee. This confidential copyrighted treatise was entitled *The Fundamental Procedure for Coating Tablets* and forms the basis for this text.

The original treatise has been greatly expanded and here it is at a fraction of the original price!

A Valuable Aid to Everyone interested in coating tablets

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- Sales Managers
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In addition to the valuable formulas, complete directions for their preparation are given—even to such minute details as the temperatures at which they should be used.

Detailed instructions on how to reclaim spoiled tablets are outlined.

An entire chapter is devoted to installing a coating department—recommendations being given regarding the proper size and type of equipment, operating capacities, dust control and hot air systems—also how to lay out a complete coating department, including blueprint floor plan.

All extraneous matter has been omitted. This book deals 100% with the details of actual coating—how to do it and produce satisfactory results.

Here is the first book of its kind ever published. Complete, simple, and easy to follow instructions on what to do and what *not* to do. It will prove invaluable to you as an instructive text, and as a ready reference.

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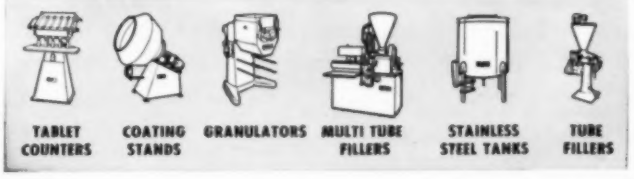

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Compounder's Corner

Sorbic Acid Anti-Mold Agent

Refined sorbic acid, suitable for use in foods, is being offered by Carbide and Carbon Chemicals Co., New York, N. Y. and its use to inhibit yeast and mold growth is described in a technical bulletin.

Sorbic acid is a white crystalline material slightly soluble in water and more soluble in ethyl alcohol and in propylene glycol. It will not affect taste or odor in concentrations useful for mold and yeast control. The compound is a selective growth inhibitor for many molds and yeasts without interfering with the growth of other micro-organisms; it functions best in the acid pH range and its mechanism of action is apparently that of an anti-dehydrogenase. Concentrations of 0.2 per cent or less seem to be effective and safe for internal use.

In a limited test with chocolate syrup, sorbic acid at a level of 0.1 per cent gave complete mold growth inhibition for over 10 weeks while half this concentration gave partial protection.

Comment: The application of sorbic acid to the preservation of pharmaceuticals and cosmetics is obvious; the acid should be used in addition to the usual antibacterial preservatives and antioxidants, although it would not be surprising if the compound, because of its structure, exhibits some antioxidant activity. I wonder what, if any, work is being done with sorbic acid with respect to its activity against pathogenic molds and yeasts, monilia for example, either alone or in combination with antibiotics and other antibacterials. Useful synergism is always possible.

Azulenes

The blue or greenish tint of some essential oils is often due to the presence of a special group of hydrocarbons, the azulenes. Considerable proportions, up to 10 per cent, are found in chamomile oil and oils of milfoil and wormwood. Another variety, guai-azulene is found in geranium and cubeb oils, while vetiv-azulene occurs in vetiver and elemi oils. Cham-azulene is a very dark blue oil; guai-azulene forms black-blue crystals while vetiv-azulene occurs as dark violet crystals.

The great physicians of Antiquity and the Middle Ages recognized the healing activity of chamomile and used it in the treatment of sick people. The ancients used chamomile infusions for stomach disorders and treatment of wounds. During the past few decades the healing activity of chamomile has been found to derive from the essential oil contained and, further, on the cham-azulene contents of the latter. Heubner and coworkers concentrated their efforts on the investigation of the pharmacological properties of cham-azulene and were able to prove its potent action. Later on, the same problem occupied Jaretzky and Neuwald, Neuwald, Pommer, while Jung and his pupils were observing the activity of synthetic azulenes.

To Janistyn goes the credit of having first recogn zed that guai-azulene exerts the same activity as cham-azulene. He furthermore found that all blue azulenes, unlike the violet ones, possess a pharmacological action. His opinion was confirmed by Pommer. Investigations of guai-azulene carried out during recent years showed that it possesses a potent antiphlogistic and regenerative activity. Some authors furthermore make claims for its antiallergic action. Janeso, Blazso and recently Tuczek expressed their opinion on its antiallergic properties. Papers on its antiphlogistic properties were published by Bruhl, Roeckerath, Burhans, Arnold and Luetzenkirchen.

In cosmetics, Janistyn has suggested the use of five to 20 grams of azulene to 100 kg. of the preparation to protect the skin from inflammatory processes; it is also said to be able to prevent allergic reaction to certain oil constituents. Dragoco, Holzminden is producing azulene on a commercial scale.—*H. K. Thomas, Dragoco Ber.* 1955:42.

Injectable Riboflavin Suspensions

Riboflavine therapy generally produces striking improvement in cases in which the deficiency is due to insufficient intake. On the other hand, poor results usually follow oral administration in subjects suffering from deficiency due to inadequate resorption. In these patients even parenterally administered riboflavine is eliminated from the body within a few days.

In order to maintain a constant level of riboflavine in the tissues, F. G. Sulman attempted the implantation of pellets so as to afford continuous and adequate resorption of the vitamin. This method of supply seems particularly advantageous in patients who cannot be trusted to take medication regularly. Pellets containing 50 mg. of riboflavine fused with 50 mg. of cholesterol on implantation maintained a high level in man and animals for up to one and one half months.

Recently Sulman simplified the treatment by developing a single injection technique (*J. Pharm. Pharm.* 7:473, 1955).

The injection of suspensions is superior to the implantation method. Whereas 50 mg. implanted provided riboflavine for 45 days only, the same quantity injected as an aluminum monostearate suspension lasted up to 105 days.

The results obtained with the suspension method are quite satisfactory. The very slow resorption of the vitamin is not only due to slow liberation from the suspension but also to the poor solubility of the vitamin in body fluids, its solubility in an aqueous medium is only 1:10,000.

There exist at present three methods of injecting crystal suspensions:

Crystal formation at the site of injection: The drug is injected as an aqueous solution with two per cent urethane, the latter is removed by the body fluids, leaving a precipitate at the site of injection which is resorbed within 14-21 days.

Crystal formation in the syringe: The drug is dissolved in an organic medium and when mixed with normal saline in the syringe, is precipitated as a fine crystalline suspension which becomes coarse after injection in the tissues and is resorbed within 14-21 days.

Crystal formation in the ampoule: The drug is suspended with the aid of a suitable suspending agent, such as pectin, sodium oleate, magnesium stearate or, aluminium monostearate before packaging in ampoules.

It seems that the last method using two per cent aluminium monostearate is the most promising.

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Aspirin Stability in APC

Through tests on tablets, it was noted that many formulations of aspirin, phenacetin, and caffeine showed decomposition of aspirin. The decomposition was found to be accelerated by heat. Discussion with experienced tablet formulators revealed divergent opinions as to causes of aspirin decomposition. A series of preliminary experiments by D. Ribeiro, D. Stevenson, J. Samyn, G. Milosovich and A. M. Mattocks (*J. Am. Pharm. Assoc. Sci. Ed.* 44:226, 1955) indicated that type of lubricant was the main cause of decomposition, although it seemed inconceivable that moisture, pressure, and type of aspirin were not factors. Therefore, a factorial experiment was set up testing all combinations of lubricants at two levels, pressure at two levels, moisture at two levels, and two types of aspirin (10 per cent starch granulation and 40-mesh crystal), the entire series being repeated for each of seven different lubricants. A total of 112 batches of tablets were prepared. The tablets were aged at 45° for four weeks and analyzed for salicylic acid content.

The results show large and significant differences in decomposition rates due to type of lubricant. From this experiment it seems that lubricants in order of increasing effect are talc, talc plus mineral oil, mineral oil, glyceryl monostearate, stearic acid, magnesium stearate, calcium stearate. The first four of these are not significantly different from one another but as a group show considerably less decomposition than the other three. The high level of lubricant caused a general increase in decomposition and a striking increase when the lubricant type was one causing a large effect, such as calcium stearate or stearic acid.

Type of aspirin was found to be important when certain lubricants were used, particularly with glyceryl monostearate, stearic acid, mineral oil and talc plus mineral oil, the crystalline aspirin having superior stability in most cases. Moisture content also influenced this effect, acting in a surprising manner in several instances, high moisture causing less decomposition. Pressure levels showed no effect in the experiment.

It may be concluded from these results that the aspirin decomposition in tablets of APC may be minimized by using talc, mineral oil, talc plus mineral or Aldo 33 as the lubricant, in combination with crystalline aspirin. Further, moderate moisture content of the phenacetin-caffeine granulation does not increase decomposition, and the pressure of the ordinary tablet machine is not sufficient to cause decomposition.

Tablet Granulation

The selection of a granulating agent for the preparation of compressed tablets has in the past often been a choice of one of the several time honored granulating agents such as syrup, gelatin solution, starch paste, etc. The purpose of a study by J. C. Griffin and C. L. Huyck (*J. Am. Pharm. Assoc. Sci. Ed.* 44:251, 1955) is to evaluate several recently developed chemicals as granulating agents for tablets of soluble and insoluble medicaments.

Carboxymethylcellulose, methylcellulose, sodium alginate, and extract of Irish moss, can be employed as granulating agents for compressed tablets of sodium bicarbonate and calcium gluconate. The agents studied proved effective in concentrations of one per cent excepting methylcellulose which required a concentration of five per cent. The disintegration time of the tablets studied compared favorably with starch paste when used with calcium gluconate; however, the disintegration time of sodium bicarbonate tablets granulated with starch paste proved to be much less than that of the other sodium bicarbonate tablets granulated with the agents under study.

The results of this study are in general agreement with previous studies. The applicability of any granulating agent to a specific medicinal should be ascertained by experimentation with the medicinal in question.

Ascorbic Acid Solution Stability

The stability of ascorbic acid at several concentrations in various liquid media including aqueous solutions of cellulose gums, pectin, sucrose, dextrose, corn syrup, and in glycerin and propylene glycol was studied by F. J. Bandelin and J. V. Tuschhoff (*J. Am. Pharm. Assoc. Sci. Ed.* 44:241, 1955). The effect of *p*H in aqueous solutions of ascorbic acid was also studied.

The rate of oxidative decomposition of ascorbic acid solutions increases as the *p*H value increases. Destruction of the acid is markedly accelerated above *p*H 4.0.

Addition of ethanol, polyhydric alcohols such as glycerin, propylene glycol, and sorbitol, and sugars such as sucrose, corn sugar, and dextrose, all tend to produce a stabilizing effect on ascorbic acid. Sucrose, sorbitol, glycerin, and propylene glycol are superior to the others in this respect.

Vegetable gums added to produce solutions of greater viscosity seem to accelerate destruction of the vitamin.

Syrups and solutions of ascorbic acid in varying concentrations indicate that higher concentrations of ascorbic acid are relatively more stable than are lower concentrations.

Vitamin B-complex factors added to syrups of ascorbic acid in U. S. P. Syrup and in sorbitol seem to increase the stability of ascorbic acid.

Antimold Agents

Storage tests by O. M. Littlejohn and W. J. Husa (*J. Am. Pharm. Assoc. Sci. Ed.* 44:305, 1955) using mixtures of preservatives showed that for Simple Syrup, U. S. P. a mixture of 50 per cent butylparaben and 50 per cent methylparaben at 1:4500 was the best for the inhibition of molds. In diluted simple syrup (42.5 per cent sucrose w/v) the use of either butylparaben 65 per cent and propylparaben 35 per cent at 1:7500, or butylparaben 90 per cent and propylparaben 10 per cent at 1:8000 was effective.

New Enteric Coatings

K. Kakemi, T. Uno, F. Kusuda and T. Ida (*J. Pharm. Soc. Japan* 75:197, 1955; *C.A.* 49:9226) prepared various esters of cellulose derivatives and tested their activity as enteric coatings. The monophthalate esters of methylcellulose and of ethyl (hydroxyethyl) cellulose were good enteric coatings when applied as solutions in ethylene dichloride or chloroform and alcohol. The succinates of methylcellulose and of ethyl (hydroxyethyl) cellulose were practically insoluble in organic solvents and they were applied as aqueous solutions of their sodium salts. The ethyl (hydroxyethyl) derivative could be used as an enteric coating but the methyl cellulose monosuccinate swells with moisture and was unsuitable for the intended purpose.

Bromotheophylline Salts

Over 30 water-soluble salts of 8-bromotheophylline have been prepared by J. M. Holbert, I. W. Grote and H. Smith (*J. Am. Pharm. Assoc. Sci. Ed.* 44:355, 1955) and their chemical and physiological properties studied. One of these (the salt 2-methyl-2-amino-1-propanol 8-bromotheophyllinate) has been found to have a low order of toxicity.

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Advancing Therapy

Polio Transmission

Tonsils, long under suspicion, have at last been pin-pointed as the primary site of polio infection, along with similar lymph glands in the small intestine.

The discovery, made by Dr. David Bodian of the department of epidemiology, Johns Hopkins University, Baltimore, Md., is believed to be the first record of polio virus found in the body before it appears in the blood stream.

Speculating on the significance of his findings for a mass immunization program, Dr. Bodian said it seemed conceivable that if a large enough section of the population, both youngsters and adults, were given polio vaccine, the virus might disappear from large communities on a continental scale.

Asked if the current plan to inoculate all first and second graders with polio vaccine would seriously cut the virus' chances of survival, Dr. Bodian said it might have a slight effect.

If all school children were inoculated, however, he said, it might well knock the bottom out of polio.

Children are the principal carriers of polio and if enough children are immunized, it would probably not be necessary to vaccinate the adults in order to stamp out the disease. Some of the principal ways of spreading polio, Dr. Bodian said, are from hand to mouth and mouth to mouth.—*Science News Letter*, July 23, 1955.

Antifungal Compounds

A new antibiotic was reported at the fourteenth International Conference of Pure and Applied Chemistry. Test-tube studies have shown it to be highly active against many fungi and to inhibit the growth of certain bacteria as well as of two types of bacterial viruses.

The antibiotic bears the temporary name of X-465-A. It was reported by Dr. M. W. Goldberg of Hoffmann-La-Roche, Inc., Nutley, N. J.

Although the substance has not yet been tested on animals, the results of the test-tube studies hold out promise for extending the field of usefulness of antibiotics.

The synthesis of a chemical found to be "considerably active" in combating a variety of fungi including those that produce athlete's foot, was reported by Drs. W. L. C. Veer, P. J. Oud and H. C. Beyerman of Organon, Oss, the Netherlands. The Dutch chemists reported that the substance also killed amoeba. The chemical is named tetrahydrofluorenone, or THF for short.

Dysmenorrhea Treatment

In a double blind clinical test, in which the identity of the drug and the placebo were unknown to patients and to the physician, a musculotropic antispasmodic was found to have significant effectiveness, according to P. J. Carpenter and P. A. Janssen (*Lancet*, p. 122, July 16, 1955). The compound, α-p-methoxyphenyl - α - di - n - butylaminoacetamide was given in the form of 50 mg. tablets to 135 patients, to be taken at the rate of at least four tablets daily from two days before the onset of the menstrual period until its termination. The effect in 93 of the 135 cases was reported as good. Surprisingly, results were also reported as good in 48 of 99 patients receiving inactive placebos, but better results with the active compound were statistically significant.

Aldosterone Synthesis

A Ciba group in Switzerland, headed by Wettstein, has announced the synthesis of aldosterone, the natural salt-controlling adrenal cortical hormone. This synthetic process is likely to improve the availability of the hormone and make easier the investigation of its full clinical potential. Possibly even more promising is the likelihood that the synthetic route will permit the preparation of derivatives with improved and more nearly general activity. These, at first glance, could include the introduction of the 17 alpha hydroxy group to improve gluco-corticoid activity, as well as the introduction of the 1,2 double bond or a nine halo group for intensification of activity.

Prednisone Side Reactions

In a series of 18 patients with rheumatoid arthritis treated by A. J. Bollet, R. Black and J. J. Bunin (*J.A.M.A.* 158:459, 1955) for as long as seven months with prednisolone or prednisone, a number of side-effects have been observed. Three patients presenting radiological evidence of peptic ulcer and one patient with severe depressive organic psychosis were reported. In the last-mentioned case definite reduction in carbohydrate tolerance was noted. The fact that the ulcers were asymptomatic in these patients indicated the need for careful observation of patients receiving these drugs in order to avoid unheralded perforation or hemorrhage. The incidence of this side-effect in patients receiving prednisone or prednisolone suggests the advisability of routine coadministration of an aluminum hydroxide gel.

Asthma Treatment

A series of 500 patients with bronchial asthma was treated by C. F. Geschickter (*South. Med. J.* 48:497, 1955) with a new quinoline derivative—N, N-diethyl-cis - Δ^4 - tetrahydrophthalamic acid (Phthalamaquin). It has both bronchodilator and antihistaminic properties, as well as the unusual advantage of localizing in the respiratory tissues. It is administered either orally or intramuscularly in the form of its organic salt, and intravenously in the form of its ascorbic acid salt. In long-continued clinical use the safe oral dose is 3 mg. daily per kilogram of body weight. Patients have been treated over periods from six to 48 months. The results were good to excellent in 80 per cent of the patients, fair in 10 per cent, and poor in the remaining 10 per cent. All of the patients had previously failed to respond to other treatments.

Rescinnamine

A clinical trial of rescinnamine, a newly isolated alkaloid of *Rauwolfia serpentina*, has indicated that there is no important difference between the hypotensive effects of rescinnamine and those of reserpine when used in combination with pentolinium or alone according to F. H. Smirk and E. G. McQueen (*Lancet*, p. 115, July 16, 1955).

Mental symptoms occurring in patients on reserpine, such as depression, diurnal somnolence, lassitude, nocturnal dreaming and nightmares, often may be relieved by changing to rescinnamine.

Some patients complained of tenseness, anorexia, and abdominal discomfort on rescinnamine and preferred to return to reserpine.

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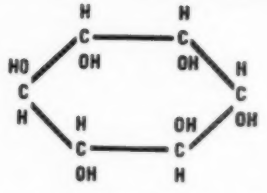

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New Reserpine Source

A method of producing reserpine on a commercial scale from *Alstonia constricta*, a tree found in northeastern Australia, has been developed by the Commonwealth Scientific and Industrial Research Organization. The plant, a new one to us, seems to be the first outside of the Rauwolfia family to serve as a source for the important alkaloid.

Antibacterial Agent

Combinations of dehydroacetic acid and *p*-chlor-*m*-xylenol are active antibacterial, antifungal, and antitrichomonadal agents as tested *in vitro* by Stedman, Engel and Bilse (*J. Am. Pharm. Assoc. Sci. Ed.* 43:622, 1954).

Solely on the basis of *in vitro* antimicrobial data, formulations containing these agents appear in most instances to be equal or superior to several representative products now available for use in the treatment of superficial and vaginal mycotic infections and vaginal trichomoniasis.

Synthetic Oxytoxic

3 - (1 - methylpiperidyl) indole was found (*Dutch Pat. 74,485, Apr. 15, 1954*) to have about 20 per cent of the activity of ergometrine, as determined on the uterus *in situ*. It is administered in the form of the hydrochloride or the maleinate, in a solution of pyrogen-free water or mixed with lactose, starch, etc., in tablet form.

Leukemia Treatment

In 1953 Moeschlin and colleagues reported that desacetylmethylcolchicine ("colcemid") had beneficial effects on a group of patients with chronic myeloid leukemia, while some encouraging results were also noted in a few cases of acute myeloid leukemia and in two patients in the acute myeloblastic phase of chronic myeloid leukemia. On the other hand, chronic lymphatic leukemia failed to respond and might even have been made worse. The profound depressive effects on excess white cell formation were accompanied simultaneously by a reduction in the size of the spleen and an increase in the red blood cell count and hemoglobin values.

Desacetylmethylcolchicine was isolated in a pure form by Santavy and Reichstein (1950) from the mixed alkaloid extract of *Colchicum autumnale* and was found to have a relatively low general toxicity, some 30-40 times less than colchicine, which, although having a very marked inhibitory effect on cell division, is too toxic for safe clinical use.

The effects of desacetylmethylcolchicine ("colcemid") on some cases of chronic myeloid leukemia, chronic lymphatic leukemia, and acute myeloblastic leukemia are described by Leonard and Wilkinson (*Brit. Med. J.*, p. 874, 1955)

Colcemid is of greatest value in chronic myeloid leukemia, having a distinct depressant action on the granulocytes and producing rapid reduction of enlarged spleen and a marked clinical improvement in six of eight such treated cases.

The disadvantage of many other agents such as myleran in producing thrombocytopenia and aplastic anemia was not seen in cases of chronic myeloid leukemia treated with colcemid.

Colcemid would seem to be contraindicated in the treatment of chronic lymphatic leukemia, and evidence suggests that it may even produce an acute change.

Colcemid has little or no beneficial effects on acute myeloblastic leukemia.

Antitubercular Activity of Sodium Ethyl Thiosulfate

Experiments on the effect of sodium ethyl thiosulfate on *Mycobacterium tuberculosis* were carried out *in vitro* and *in vivo* by E. Del Pianto (*Ricerca Sci.* 23:1785) in view of the synergistic effect with 2-mercaptobenzothiazole and 2-mercaptoquinoline. It is found that *in vitro* the compound does not inhibit the development of *M. tuberculosis*. *In vivo*, the effect depends on the means of administration; subcutaneously and intraperitoneally it has no effect in infected mice. Oral administration with the diet (0.5 and 1 g. per cent) to infected mice leads to an increase of average survival time from 15 to 51 days, and from 10.5 to 54 days, compared to 20 days for 0.50 g. per cent *p*-amino-salicylic acid.

Primycin Antibiotic

Actinomycetes isolated from the intestinal tract and feces of larva of the wax moth (*Galleria mellonella*) produced an antibiotic, primycin according to T. Valyi-Nagy, J. Uri and I. Szilagyi (*Nature* 174:1105, 1954) when grown on an alkaline liquid medium containing corn steep liquor and glucose for six to nine days. The antibiotic was active against *Micrococcus pyogenes* var. *aureus* in concentrations of 0.02 to 0.06 γ/ml. It was bacteriostatic against gram-positive organisms and Mycobacteria, and had some viricidal action. Serum reduced the potency to one-fourth or one-fifth. The L.D. for mice and rats was 2.5 and 10 mg./kg., respectively.

Aspirin Irritation

According to A. Muir and I. A. Cosaar (*Brit. Med. J.* 1955:7) aspirin may act as a severe gastric irritant in some people. This is particularly true of patients with peptic ulcer, one-third of whom are intolerant in varying degree to aspirin. The basic lesion produced by aspirin in such circumstances is an acute erosive gastritis, sometimes of surprising severity. In favorable circumstances—that is, the combination of a poor mucous reaction and the retention of relatively large portions of insoluble aspirin in the stomach—the lesion produced may be acute peptic ulceration, as was demonstrated in one specimen.

Aspirin should never be given to patients with peptic ulceration, or indeed to those who have any gastric intolerance to it, however mild. Some of these patients took aspirin on a full stomach only in powder form, with serious results, and, although this method almost certainly mitigates its irritant effects, it does not guarantee immunity. Calcium aspirin does not have this irritant action unless it has deteriorated through standing, and it can be used with impunity, especially if prescribed in soluble form.

Vitamin A and Hearing

Hearing may in some cases become more acute as a result of vitamin A administration, 100,000 units/day. The ear can adapt to soft sounds more rapidly when the individuals receive these large doses of vitamin A. The fatigue period following loud noises, also, is shortened. The function of vitamin A in the eye is compared with its possible function in the ear by L. Ruedi (*Schweiz. med. Wochschr.* 84:1411, 1954).

Diabetes Drug

Mawaeng's berries according to P. Karungavanich and C. Suvagondha (*J. Pharm. Assoc. Thailand* 2:151, 1949; from *C.A.* 49:4936) useful in the treatment of diabetes, contain water 4.91, ash 7.43, alkaloids 0.067 per cent, an alkaloidal glycoside, acid and neutral saponins, pectic substances, organic acids, lignin, ddd cellulose. The alkaloid add glycoside have an antagonistic effect on blood sugar. The alkaloid is hyperglycemic, and the glycoside is hypoglycemic. The glycoside, when given subcutaneously or orally, maintains a lower level of blohd sugar for several hours.

INDUSTRIAL ANALYTICAL RECORD KEEPING

(*Continued from page 332*)

shipment. This fact and the appropriate date were entered on the assay record card. This small card also had entered upon it miscellaneous information pertaining to the job, such as: results of analytical work by consultants, date of shipment of certificate of analysis to the customer, etc. At this point, the card which duplicated the manufacturing card was discarded and the assay work sheets and assay record card were permanently filed in the manila folder in a standard metal file in the control office.

Although this system could not be described as brilliant in its conception, it was not *obviously* bad and it was used for quite a few years. As is often the case with such systems, this one survived until a crisis threatened its existence. The crisis in this instance was the replacement of the experienced control laboratory record clerk by a new employee.

For a number of years the maintenance of this system was in the hands of a fast, efficient clerk. This young lady had succeeded in making the system run smoothly and relatively rapidly in spite of itself. When she made the decision to trade "work sheets" for diapers, a replacement clerk was brought in and given orientation training by the departing employee. The entire system was completely outlined and presented to the new clerk in written form.

Upon completion of the training program the new clerk was put on her own. There is no need to discuss the chaos of the next few weeks. Suffice it to say, it was *now* quite obvious that the system was grossly inefficient and that it owed its past survival to the speed and efficiency of the previous clerk.

The discussion to this point has dwelled on the cumbersome aspects of data *entry* in this system. Of equal importance was the fact that extraction of data from these records for the evaluation of production or laboratory operation was also extremely difficult since such data aggregation involved the study of each individual file folder separately.

Case Study: After

All things considered, it was clear that the system had to be completely redesigned to meet the requirements more effectively and less expensively. The first step in redesigning any system involves the clear definition of what is expected of it. This is, perhaps, the most crucial part of the entire process. What should be the major objectives in setting up this particular record system? Well, for one thing, the less time required for the paper work preceding the delivery of samples to the analysts, the better. If samples get bogged down in the control office while records and work sheets are being prepared, much potential laboratory time is dissipated. This is, of course, expensive and aggravating, especially when long drawn-out assay procedures must be scheduled. So, the first goal involved cutting to the bone the initial paper work following receipt of samples in the control office.

At the other end of the process, there should be a minimum of delay in releasing jobs for further processing or shipment after the assay work has been completed. Analytical laboratories are common scapegoats when delivery schedules are not maintained, and the complaint of "holding up the works" had to be minimized. So, the second objective was: rapid entry of data.

What other major goals should be sought in the design of this system? A major objective should be the simplification of the process of extracting data from the system for critical evaluation of production and laboratory operation. This tremendous collection of data must be made available for aggregation and study. The previous system functioned like a "Venus fly-trap"—the flow of information was strictly unidirectional. This "sequestering" action probably represented the most significant long-range deficiency in the former record system. Hence, the new system must minimize the problem of data extraction.

In general terms, then, the *primary* objectives in redesigning this system were:

(1) Reduction of time spent in setting up records and work sheets before submitting samples to analysts for assay.

(2) Reduction of time spent in processing assay data before releasing job for further processing or shipment.

(3) Reduction of time involved in studying the accumulated data.

Other goals desirable in all systems improvement, included:

(1) Reduction of cost wherever possible by eliminating superfluous elements.

(2) Reduction in errors.

With the objectives "blocked-out," the next item on the schedule was, of course, the search for possible technics for achieving these goals.

Well, let's see . . . we could save the cost of the assay record card by using the surface of the manila folder itself for summarizing the data. This would eliminate the assay record card and would minimize clerical preparation time since the job-identifying data (customer, code and lot number) would then be entered once instead of twice. That's a fine idea but it's a haphazard way of approaching the re-design of a system. Let's go back to our stated objectives and attempt to apply the analytical approach.

Our first goal was the reduction of time dissipated in the control office in the preparation of the permanent record (namely, the manila folder and the assay record card) and the work sheets before the analysts could get to work. Specifically, now, this phase of the operation consumed time because the following data had to be handled for each lot of merchandise:

(*Continued on page 402*)

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Perfumer's Shelf

Pharmaceutical Flavoring

The flavoring problem the pharmaceutical manufacturer has to face is several fold according to D. F. Etchells (*P.E.O.R.* 46:156, 1955). First he has to mask unpleasant taste in his medicaments, or he has to give a flavor to a bland product to increase its acceptance. The problem of masking falls really into two categories, that of odor and that of taste, both of which may well be present. Generally speaking however, it is the latter which has given rise to much thought and research. Organoleptic studies have been carried out using a large number of volunteers, who graded flavors in order of preference on the basis of whether or not they masked the taste of a particular type of compound, wholly, partially, or not at all. In the absence of any physical determinations this method of assay gave very consistent results using such sample substances as quinine, ammonium chloride and sodium bromide etc. From analyses of these experiments it was evident that cinnamon, licorice and orange flavors were ideal for covering saline drugs, while chocolate or raspberry syrup were preferable for bitter compounds. Raspberry and fruit flavors generally were the choice in overcoming the acidic taste of some preparations, while volatile oils either singly or admixed were of value in fixed oil emulsions.

Another important consideration is the viscosity of the final product. Evidence suggests that an increased viscosity of the product can lead to greater palatability especially where bitter principles are involved. This has direct bearing in deciding upon the formulation of a medicament. The desired texture is easily achieved by the use of syrup, glycerin, or dispersions of the newer vegetable hydrogels s ch as sodium alginate or carboxymethyl cellulose. There is a further quality inherent in some flavors used to mask an unpleasant characteristic. Certain chemicals such as menthol, the volatile oils, and vanillin tend to impart a very mild local anesthetic effect upon the taste buds, thus reducing the taste of the actual medicament. Chemically however, one must have compatibility between medicament and flavor. Hydrogen ion concentration has to be taken into account, and liquid preparations may well precipitate on storage due to fluctuations in this factor. Again, oxidation or reduction of the flavor *in situ*, can cause incompatability and it is essential that there must be prolonged stability. Flavor fading is a most common and difficult problem, for example saponification of an ester is a common fault in such products as anti-acid and magnesia preparations due to their alkaline nature, and for this purpose now the terpeneless oils are more widely used. Rancidity of fats is a common phenomenon and here anti-oxidants such as ascorbic acid find wide use, which incidentally tends to enhance the flavor of the material used to mask the oil.

Naturally in formulating pharmaceuticals in relation to flavor, color must be complementary to that flavor, and the range of soluble edible colors enables manufacturers to present a pleasing product. The aromatic principles of flavors are also used to cover the unpleasant odor of a tasteless or neutral product. The tablet or gelatin capsule while tasteless can on prolonged storage, as for example in the oily vitamins preparations, render an unpleasant odor. In such a case the coating itself can be successfully treated with vanillin, and this has found useful application in some antibiotic presentations.

Carbinols and Esters

The carbinols and their esters are useful because of their bloom-like fragrance and their ability to give body and character to perfumes. They are resistant to oxidation and will not cause discoloration on exposure to sunlight, which makes them especially useful in cosmetics and soap perfumes. Because of their low evaporation rate they are excellent fixatives. The carbinols may be used in relatively large amounts in a composition without upsetting the formula balance: their high solubility in alcohol is useful.

The carbinyl esters have strong and characteristic odors and require careful handling.

Dimethyl benzyl carbinol is one of the strongest, in terms of odor value, of the perfumery carbinols. It has a full odor of the woody floral type, with a green note reminiscent of elder. Up to 10 to 20 per cent may be used in muguet, lilac, hyacinth, Jasmin and narcissus.

Dimethyl phenyl carbinol is a colorless solid melting at 35 to 37° C. Its odor is flowery, with a rose note which is stronger and sweeter than that of phenylethyl alcohol. It is useful floral bouquets such as rose, cyclmaen, lilac and muguet.

Isopropyl benzyl carbinol is excellent in compositions of the reseda type and blends well with jasmin and hyacinth.

Isobutyl benzyl carbinol is fuller and richer in odor than the isopropyl compound and blends well with beta ionone.

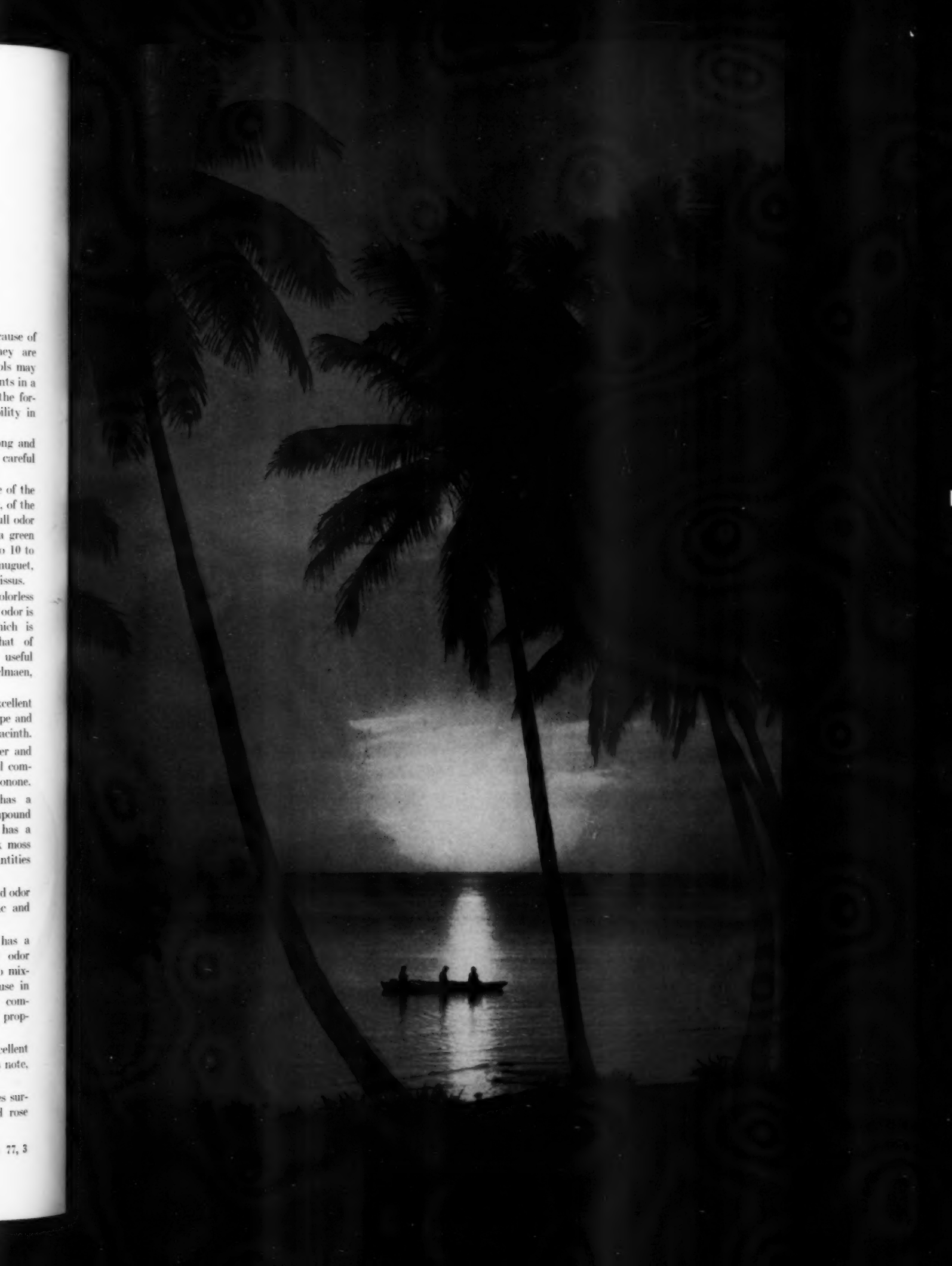
Methylethyl benzyl carbinol has a milder odor than the isobutyl compound but is equally persistent. It has a saffron-like odor with a fine oak moss note. It may be used in large quantities in combination with muguet.

Methyl phenyl carbinol has a mild odor which makes it suitable for lilac and gardenias.

Phenylethyl dimethyl carbinol has a typically floral, smooth, velvety odor which gives body and warmth to mixtures. It is recommended for use in jasmin compositions in which it combines fixative with rounding-off properties.

Phenyl benzyl carbinol is an excellent fixative with a distinguished orris note, useful in violet perfumes.

Phenylethyl methyl carbinol gives surprising effects in rose rouge and rose



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MY MOM SAYS:

"Take your medicine like a little man."

Well, I'm *not* a little man! I'm just a little baby and I'll take my medicine like most little babies do—screaming, clawing, fighting, spitting—*unless I like it!* Then I'll take it like a little lamb . . . and lambs, you know, are sweet and docile.

• • • • • • • • • • • •

. . . . . And that is where FRITZSCHE comes into the picture, for we really believe our many, many years of flavor specialization can be of considerable aid to your staff in developing flavors that will make your medicinals more palatable—even to the most sensitive tastes. Why not let us try? You'll be under no obligation and all research in your behalf will be strictly confidential, we assure you.

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centifolia compositions and is also extremely suitable for lavender compositions.

Phenylethyl methylethyl carbinol possesses a rose-like fragrance with a balsam-like by-odor, reminiscent of Javanese curcuma root.

Dimethyl benzyl carbinyl acetate has an odor reminiscent of hyacinth and excellent results may be obtained with it in many floral bouquets, especially jasmin, lily, muguet. It is interesting in combination with jasmin absolute, which it enhances.

Isobutyl benzyl carbinyl acetate has a fruity odor which is also reminiscent of honey.

Isopropyl benzyl carbinyl acetate has a warm, fruity odor suggestive of black currants. The odor, which is somewhat like that of phenylpropyl acetate, but finer, blends very well with different carbinols and with alpha amyl cinnamic aldehyde.

Methylethyl benzyl carbinyl acetate has a lower rate of evaporation than the dimethyl compound; its odor is milder and its application more general.

Methylphenyl carbinyl acetate possesses a gardenia odor and should be handled with care. It blends well with hydroxycitronellal, ionones and oak moss and may be used in fancy and floral bouquets.

Phenyl benzyl carbinyl acetate has a fine black currant odor and is an excellent fixative.

Phenylethyl dimethyl carbinyl acetate may be used in fairly large quantities in rose perfumes.

Phenylethyl methylethyl carbinyl acetate possesses a milder and less rose-like odor than the corresponding dimethyl compound. Although it may be used in rose perfumes, it is especially useful in narcissus.—*Aromatic Chemical (Polak & Schwarz) July 1955.*

Peppermint Oil

The English variety of peppermint oil still enjoys the highest reputation for quality although the amount produced is small compared with the amounts produced by the United States, China, Japan and Brazil. The variety distilled in the United States is similar to that of the original Mitcham variety. In England two varieties are known, *Mentha piperita vulgaris*, the black mint and *Mentha piperita officinalis*, the white mint. Although the latter gives the better quality oil, the former variety is cultivated most as it gives a higher oil yield and is more resistant to climatic conditions. The *Mentha piperita* plant has since been cultivated in the United States where the industry has assumed very large dimensions and to a smaller degree in other countries such as Italy, Bulgaria, France and Morocco. The Japanese peppermint plant is *Mentha arvensis piperascens* and the Chinese *Mentha arvensis glabrata*. Within the last twenty years or so the cultivation of the arvensis type has been carried out with great success in Brazil and the Brazilian oil is now a well-known article of commerce.

The oils from the two types of plant, the *piperita* and the *arvensis* differ in composition. The *arvensis* type contains an unusually high proportion of menthol, a large portion of which is removed before the oil comes on to the market as "dementholized" peppermint oil.

Although the main constituents in the two types of oil are the same, there are a number of minor constituents which vary. The *piperita* type is universally considered to be superior in odor and flavor to the *arvensis* type and much research has been carried out to ascertain the trace bodies which are responsible for the difference. Two of the most important are menthofuran and jasmone. Menthofuran seems to accumulate in the flowering tops.—*P. & E. O. R.* 46:176, 1955.

Molecular Weight and Taste

There is a well-marked relationship between molecular weight and taste which is shown in the appearance of a bitter taste with increasing molecular weight, irrespective of whether the taste of lighter members of the series is sour, salt or sweet according to R. W. Moncrieff (*Chem. Prod.* 18:131, 1955). Although not without exceptions, this rule is of very wide application. Very high molecular weights usually result in insolubility in water, and as a result in tastelessness.

There is not such relation in the case of smell, no tendency for a particular quality of smell to develop with increasing molecular weight. Eventually, when molecular weight rises so high that volatility is lost, smell falls away too. Low molecular weight is accompanied by more rapid diffusion, which will enable a smell to be perceived more quickly. A preliminary investigation shows that substances that have musky smells have molecular weights that are fairly closely grouped. If adsorption of odorant on olfactory receptor is the process that initiates the sensation of smell, molecular weight might be a factor in olfactory discrimination.

Amasol Extra

Amasol Extra, an all-purpose perfume specialty, has such lasting power, that even after 16 months a scented card is still strongly perfumed. This unusual aldehyde can be used either alone or in combination with other ingredients to perfume creams and lotions and in pers fumes and toilet water preparations. It-freedom from discoloration is also worthy of note. *Syntomatic Corporation, New York.*

Phantolid Synthetic Musk

Phantolid is a low-cost synthetic chemical that possesses much of the fragrance and many of the performance properties of natural musk. Its chemical identity has been revealed for the first time to be 1, 1, 2, 3, 3, 5-hexamethyl indan methyl ketone.

The perfumer may principally apply this inexpensive musk-like synthetic substance for creating a luxury effect, for blending, for producing a liaison between fragrance and skin, for presoftening of perfume alcohol, and for fixation. Phantolid brochure shows a revised price schedule listing substantially reduced quotations.

Copies may be obtained by addressing Polak's Frutal Works, Inc., Middletown, New York.

Alamask

Rhodia, Inc., New York, announces the addition of "Alamask" P4-M and "Alamask" P4-M-X to its line of industrial chemical reodorants.

Extensive testing of the new products have proven their effectiveness in masking objectional odors emanating from municipal waste, chemical plant operations and pharmaceutical and biotic wastes.

"Alamask" P4-M and "Alamask" P4-M-X possess improved low temperature stability, with greater odor coverage of sulfides and mercaptans. Addition can be made directly to processes, or applied in dispersible form to effluents from operations.

Water-Soluble Theophylline

This new compound, 2-hydroxypropyl theophylline, is reported by E. Hiller (*Med. Klin.* 49:1990, 1954) to act in the physiological pH range. Its action on blood pressure and vasodilatation is equal to that of the dihydroxy derivative but its action on asthma symptoms is superior.

Dawn of a Great Day in Perfumery–

VERSALIDE*

A New Musk Body

VERSALIDE is a new and uniquely different type of musk—the product of more than two years of extensive research and testing. Its development by Givaudan opens up fresh fields of opportunity for creative perfumery.

Versalide has an intense, sweet odor that lends to a perfume all the enhancement, sweetness, strength and fixation expected only from the macrocyclic musks.

Its versatility is almost unlimited, and its advantages are both numerous and practical. A pure chemical body, not a mixture, it is produced in unvarying quality from readily available materials.

Versalide is extremely economical. It is stable to light, air, heat, alkali, does not discolor soap, is not an irritant or sensitizer to the human skin, and is safe for all cosmetic preparations. It is also useful as an alcohol prefixer.

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Skin Research

Itching

Discovery of a chemical basis for itching and a forecast of better itch remedies as a result were announced by Drs. Robert P. Arthur and Walter B. Shelley in the May 21 issue of *Nature*.

Itching comes from certain enzyme chemicals released in the body. These chemicals either act directly on nerves or, more likely, act indirectly by synthesizing or releasing an active compound from skin cells.

Itch enzymes from animal tissues are trypsin, chymotrypsin and pancreatin. Those from plants are mucunain, papain, bromelin, ficin and fungal proteinase.

Mucunain is the itch chemical of the plant, cowhage, whose hairs cause unbearable itching. When very small amounts of this enzyme were introduced into the skin, itching started in five seconds and lasted as long as 30 minutes. The itch was at the place the enzyme was put into the skin.

Many of the itch remedies used today such as anti-histaminics, sulfapyridine and arsenicals, may depend for their results on a partial blocking of the proteinases, or itch enzymes.

More study of enzymes and their action, may point the way to a truly specific means of temporarily blocking the proteinases and therewith the pruritus.—*Science News Letter, July 16 1955.*

Axillary Odor

Shelley, Hurley and Nichols reported that apocrine sweat is odorless and sterile when it initially appears on the skin and that typical axillary odor can be produced by the action of microorganisms on apocrine sweat in vitro. They were able to prevent the development of odor for more than 18 hours by the local use of a hexachlorophene-detergent preparation which kept the axillary hair sterile. Baer and Rosenthal reported that 81 per cent of their test subjects were free from objectionable axillary odor for one day after using a soap containing one per cent of tetramethylthiuram disulfide. J. Rodriguez was successful in suppressing axillary odor by the local use of a neomycin ointment.

E. H. Ferguson (*J. Investig. Dermatol.* 24:567, 1955) used a three per cent Aureomycin ointment on 10 subjects to control axillary odor. After treatment, the axilla and axillary hair were virtually free from microorganisms and there was little or no odor. Although the preparation was effective, the author warns against the indiscriminate use of antibiotics locally as deodorants because of the likelihood of sensitization.

Fungous Infections

Recent studies have shown that exposure to the organisms plays at most only a minor part in the development of acute attacks of fungous disease of the feet. Local resistance seems to be the most important factor in determining whether or not clinical fungous disease develops.

R. L. Baer, S. A. Rosenthal and D. Furnari (*J. Invest. Dermatol.* 24:619, 1955) used 22 subjects, seven with and 15 without fungous infections of the feet and exposed the feet to fungous infection. In 12 of the 22 subjects, fungi were not seen microscopically or recovered by culturing even 24 hours after application by rubbing in of the fungous-containing material. Fungous could be detected in eight instances on the first day, in two cases on the second day, in one case on the third day, in three cases on the sixth day, in three cases on the eighth day and in one case on the fifteenth day. The foot skin seems to have a remarkable capacity to rid itself of or to kill or inhibit pathogenic fungi, similar to the self-sterilizing properties of the skin against bacteria.

Skin Elasticity Loss

Skin can lose its elasticity even in relatively young persons.

The condition, known as senile elastosis, was found in more than three-fourths of a group of patients under 30 years of age. The patients were chiefly World War II soldiers.

The condition apparently is associated with skin cancer. Whether it results from the cancer or is a localized aging mechanism that preceded the cancer has not yet been determined.

These are among findings presented by Lt. Col. Joseph L. Bernier, USA, and Mardelle Clark Reynolds of the Armed Forces Institute of Pathology at the dedication of the institute's new building at Walter Reed Army Medical Center, Washington.

The skin studies were made on 835 cases of lip cancer. There was no statistical evidence that exposure to the sun's rays, complexion of the patients, X-ray or other radiation treatment, civilian occupation or location of the cancers on upper or lower lip had anything to do with the so-called old age loss of elasticity in the tissues.—*Science News Letter* 1955, 383.

Skin Potentials

It was shown by T. Cornbleet and N. R. Joseph (*A.M.A. Arch. Dermatol.* 71:731, 1955) that redox potentials induced at a localized site of the skin spread rapidly to distant parts and envelop the entire integument. By suitable arrangements this spread can be blocked and inhibited. By analogies an attempt was made to relate these to naturally occurring skin redox systems in a consideration of possible avenues for the induction of the sensitization process.

Histochemical Skin Studies

Succinic dehydrogenase activity, protein-bound sulfhydryl and disulfide groups, all having relationship to growth, metabolism, or maturation of epidermal cells, were studied in 102 specimens of human skin by A. G. Foraker and W. J. Wings (*A.M.A. Arch. Dermatol.* 72:1, 1955).

Succinic dehydrogenase plays a vital role in the respiratory processes of most living cells and form a link in the chain of reactions concerned with the oxidation of lipids, carbohydrates, and proteins.

Protein-bound sulfhydryl groups are

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This specialty raw material, first introduced several years ago, has established itself firmly with the discriminating cosmetic manufacturer for use in his premium face powders.

Its exceptional silky, soft smoothness, the complete absence of odor and the extremely fine particle size plus its extraordinary adhesiveness, they say, make it an outstanding additive. As little as 5%, added to your formula, will demonstrate these qualities, although it is being used in some face powder to the extent of 15%.

We believe this product has special value in pressed-face powders which have gained so much popularity recently.

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essential for the activity of many enzymes. They serve as protein links and are important in varied cell functions. Sulfhydryl groups have an important function in cell division and growth. The presence of sulfhydryl groups in the epidermis is closely related to the process of keratinization, where they undergo a transformation to disulfide substances in the stratum corneum and are concerned with cell division and proliferation.

The histochemical localization of these substances has been studied in human skin. In epidermis, hair follicles, and sebaceous and sweat glands, the sulfhydryl reaction and manifestation of succinic dehydrogenase activity occurred in all of the living cells. The disulfide reaction occurred in regions of keratinization, including hair shaft formation.

Hair Softening and Swelling

The swelling of human hair in ammonium thioglycolate solution, pH 9.7, was measured by R. Heilingotter (*Seifen-Ole-Fette-Wachse* 80:669, 1954) under the microscope or by determining the weight increase after centrifuging. The percentage swelling decreases with decreasing pH of the solution and is also somewhat lowered by various additions such as wetting agents, inorganic salts and especially sodium sulfite. The softening is measured by the percentage elongation with time of a hair of determined length, calculated to standard cross section, immersed in ammonium thioglycolate solution containing 5.4 per cent of thioglycolic acid. Solutions of lower pH or containing various additions show decreased softening to a lesser extent than they do swelling.

Skin Absorption of Sulfur and Polythionates

A paper by T. E. Neesby, A. Koff and A. W. Pircio (*J. Am. Pharm. Assoc. Sci. Ed.* 44:383, 1955) described the preparation of radioactive precipitated sulfur and of radioactive polythionate solution and the technique of applying these substances to intact rat skin to measure possible absorption of sulfur and the sulfur preparation. Solutions of the polythionate and an ointment were compared with aqueous suspensions and various ointments of the precipitated sulfur preparations. No data and no conclusions are given or even indicated in the paper, which greatly reduces its value. Incidently, I wonder if any data has been published on the use of polythionates in the treatment of seborrheic dermatitis. It should be possible, with the use of a properly selected synthetic detergent, to make an active cleansing shampoo at the low pH 1 required for optimal activity.

Skin Esterase

According to W. Montagna (*J. Biophys. Biochem. Cytol* 1:13, 1955), the nonspecific esterase activity is strong in the outer sheath of active hair follicles, axillary apocrine glands, and cells around the hair club in quiescent follicles. Decaying sebaceous cells and newly formed sebum are unreactive, whereas young sebaceous cells and sebum are reactive. A reactive bond is found between the stratum granulosum and stratum corneum, but there is no such bond in the epidermis of the palm. The "clear" cells of eccrine sweat glands have no activity, but the "dark" cells are active.

Local Anesthetic Action and pH

There is a considerable variation in the absorption and consequent local anesthetic action of ethyl aminobenzoate according to V. N. Bhatia and R. H. Barber (*J. Am. Pharm. Assoc. Sci. Ed.* 44:342, 1955) when it is incorporated in hydrophilic ointment buffered at varying *p*H values.

The maximum local anesthetic activity seems to occur at *p*H 6 and 7 and decreases sharply when the *p*H is varied.

The *p*H of the rat skin is approximately 6.48. From the results of this study it appears that at least under these experimental conditions the maximum local anesthetic action will take place if the ointment is buffered at or near the *p*H of the skin.

Fluorohydrocortisone Ointment

9 - α - Fluorohydrocortisone acetate when used topically by E. T. Wright, J. H. Graham, V. D. Newcomer and T. H. Sternberg (*A.M.A Arch. Dermatol.* 72:69, 1955) is an effective anti-inflammatory agent in approximately the same type of cutaneous diseases as hydrocortisone acetate. It is effective in concentrations as little as 0.1 per cent.

No abnormalities were noted in the serum sodium and potassium, blood pressure, and weight with the topical use of 9-α-fluorohydrocortisone acetate.

No cutaneous complications were observed with the topical use of the medication whith necessitated its discontinuation.

The combination of 9-α-fluorohydrocortisone acetate with neomycin and gramicidin appeared to produce better therapeutic results than when 9-α-fluorohydrocortisone acetate was used alone.

9-α-Fluorohydrocortisone acetate in the concentrations employed was as effective as 1.0 per cent and 2.5 per cent hydrocortisone acetate preparations.

Selenium Sulfide Dermatitis

Selenium sulfide shampoo, although usually a safe, as well as highly efficient, preparation for long-term control of seborrheic dermatitis of the scalp, is capable, in occasional instances, of sensitizing the skin of the neck and external ear and producing contact dermatitis. Three such cases were reported by B. C. Eisenberg (*A.M.A Arch. Dermatol.* 72:71, 1955).

Isopropyl Linoleate

In 1927 a study of fat metabolism in animals showed that diets free of fat but containing sufficient quantities of vitamins, protein and carbohydrates proved incapable of sustaining normal growth and reproduction in animals. In further studies Burr and Burr demonstrated that dietary deficiencies in these fatty materials led to skin disorders such as generalized dryness, scaling and dandruff, excessive hair loss, and dull, dry hair.

Many investigators have continued to contribute information concerning the value of the essential unsaturates. In 1940 Kugelmass summarized these results when he stated that they were essential for cell respiration, insulin secretion, epidermal synthesis and hair metabolism.

Most recently Butcher described investigations in which lanolin, linoleic acid, oleic acid, ricinoleic acid, and squalene were applied to the backs of rats. Fluorescent microscopy showed that linoleic acid penetrated the skin and could be found in the capillaries 10 minutes after application. Oleic acid penetrated more slowly with little appearing in the capillaries, while lanolin and ricinoleic acid penetrated not at all.

Isopropyl linoleate is being offered by Van Dyk & Co., Belleville, N. J. as a highly concentrated and stable source of linoleate suitable for cosmetic use. It is a mobile, oily liquid, nearly water-white in color and has been shown to be stable by exhaustive continuous accelerated aeration tests and shelf storage tests.

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Readers' Questions . . .

Thioglycolate Solutions: *We import thioglycolic acid for cosmetic manufacturers who prepare ammonium thioglycolate solutions ranging in strength from 3 to 10 per cent. We have had some complaints, however, that the solutions are irritating to the hands and cause curling of the nails. We have been asked to find a product which could be added to these solutions to make them less irritating, but believe that any such additive, if there were one, would reduce the hair waving ability of the solutions. Can you be of any assistance in this problem.* COPENHAGEN.

Since the composition of hair, skin and nails is virtually identical, it seems inevitable that a composition affecting hair, as the thioglycolate solutions, would inevitably have some effect on skin and nails. This is especially the case with beauty parlor operators whose hands are in contact with the solutions often during a working day, as contrasted with occasional and limited contact with women doing their own hair waving. As you believe, any protective added to the solution would reduce or adversely affect hair waving action of the solution. Beauty parlor operators should wear rubber gloves or use one of the skin protective barrier preparations.

Vanishing Cream Formula: *Could you furnish me with one or two good formulas for vanishing creams? Also, is the compound of stearic acid with sodium or potassium carbonate soluble in alcohol? As a recent subscriber I must say I like your magazine very much both in appearance and contents.* NEW YORK.

Thanks for your kind words, which are much appreciated. The compound formed by the reaction of stearic acid with potassium carbonate or sodium carbonate is the corresponding potassium or sodium stearate. Both of these compounds are slowly soluble in cold water or alcohol, more readily soluble in warm water or alcohol.

A pearly vanishing cream can be made along the lines of the following formula:

Stearic acid	15.0
Oleic acid	2.0
Sorbitol	5.0
Sodium hydroxide	0.2
Potassium hydroxide	0.8
Perfume	0.4
Methyl paraben	0.1
Water	76.5

Melt the stearic acid and oleic acid together, heat to 75° C. and pour into the

solution of sorbitol, sodium hydroxide and potassium hydroxides and preservative dissolved in water and heated to the same temperature. Stir until a smooth emulsion is formed and stir to room temperature, adding the perfume at 50° C. The cream is filled cold and pearliness develops on standing.

A non-pearly, but somewhat more emollient cream may be based upon self-emulsifying glyceryl monostearate.

Glyceryl monostearate	14.0
Lanolin	2.0
Glycerin	4.0
Perfume	0.5
Methyl paraben	0.1
Water	79.4

Heat all the ingredients together, except perfume to 80° C., stir until cold, adding the perfume at 50° C.

Shampoo: *We have been unable to reduce the pH and viscosity of our shampoo and would like some suggestions for experimentation. The clarity and foaming properties of our present product are quite satisfactory.* WATERBURY.

Your shampoo contains about 30 per cent of soap, about 25 to 27 per cent being neutralized by potassium hydroxide, the rest by sodium hydroxide, and this mixture should have the clarity, foaming and cleansing power that you like. However, unless you have exact analyses for the fats and the alkalies, it is easily possible to have an excess of one or the other; excess fats will give a cloudy product, while excess alkali will bring the pH too high. Moreover, even at exact neutralization, potassium and sodium hydroxides will produce alkaline soaps. Short of complete reformulation, you may be able to reduce excess alkalinity in your shampoo in the following way: Stir oleic acid into the mixture until the pH is at the desired level. The solution may not remain clear, in which case it will be necessary to add triethanolmine slowly and carefully until clarification is attained. Excess triethanolamine does not have as drastic an effect in raising the pH to excessive values as do potassium and sodium hydroxides. If considerable amounts of fatty acid and triethanolamine are required to accomplish the purpose in view, then the shampoo can be cut back with water to its original 30 per cent soap concentration.

Additionally, the inclusion of about one-tenth of one per cent of ethylene diamine tetraacetic acid will prevent turbidity by calcium salts extracted from the bottle, and one to two per cent of a detergent will tend to prevent clouding by fatty acid deposition.

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Modulan is extremely hydrophobic – does not form greasy emulsions and is practically odorless. Because of its outstanding compatibility with oil-in-water emulsions and with soaps and shampoos, Modulan is particularly recommended for use in creams, lotions, baby products, hair preparations, make-up, and ointments.

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Industry's Books...

Handbook of Food and Agriculture, *Edited by Fred C. Blanck, Chief Research Chemist, H. J. Heinz Co., 1039 pp., Reinhold Publishing Corp., New York, (1955), cloth,* **$12.50.**

Twenty-six chapters provide in concise form the most important information available on soils and plant growth, fertilizers, insecticides, nutrition, storage of raw products, food processing, preservation, packaging, waste disposal and many other topics.

The Roger Adams Symposium, *140 pp., John Wiley & Sons, Inc., New York, (1955), cloth,* **$3.75.**

These are the papers presented at a symposium in honor of Roger Adams at the University of Illinois September 3 and 4, 1954. Remarks at the Symposium Honoring Roger Adams, by Ernest H. Volwiler. Steric Effects in Dyes, by Wallace R. Brode. The Structure of Gliotoxin, A Sulfur-Containing Substance, by John R. Johnson. The Structure of Nepetalic Acid, by Samuel M. McElvain. Chemistry of Flavylium Salts: Reactions with Amines, by Ralph L. Shriner. Some Chemical Studies on Viruses, by Wendell M. Stanley.

The Law of Drugs and Druggists, *by William R. Arthur, formerly Charles Inglis Thomson Professor of Law, University of Colorado, Fourth Ed., 399 pp., West Publishing Co., St. Paul, (1955), cloth,* **$10.**

This is a treatise with text, cases, statutes, readings, and digests for schools of pharmacy, retail, wholesale, and manufacturing druggists. In this fourth edition, not only the new statutes and decisions have been considered, but many of the old cases have been restated, because in the light of new statutes and decisions they have been given a broader and more definite interpretation.

Biochemistry, an Introductory Textbook, *by Felix Haurowitz, Professor of Chemistry, Indiana University, 485 pp., John Wiley & Sons, Inc., New York, cloth,* **$6.75.**

This is the first book to treat general biochemistry, at an introductory level. Never confined to the interests of special groups, it incorporates material on animal, plant, and bacterial biochemistry. It does this, moreover, not by enumerating long series of specialized data, but by emphasizing the problems that are common to all fields.

Management of Addictions, *Edited by Edward Podolsky, M.D., Department of Psychiatry, Kings County Hospital, Brooklyn, 413 pp., Philosophical Library, New York, (1955), cloth,* **$7.50.**

The Biologic Effects of Tobacco, *Edited by Ernest L. Wynder, M.D., Head, Section of Epidemiology, and Associate, Sloan-Kettering Institute for Cancer Research, 215 pp., Little, Brown and Co., Boston, (1955), cloth,* **$4.50.**

It is the purpose of this book to determine what is fact and what is fancy about the possible relationship of tobacco and tobacco smoke to human health. The text summarizes present knowledge linking or denying tobacco as a factor in human diseases.

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Modern Marketing Dynamics and Management, *by Harry Walker Hepner, Syracuse University, 599 pp., McGraw-Hill Book Co., New York, (1955), cloth,* **$6.**

This book has two new approaches to the subject. First, the author has stressed the dynamic forces that affect marketing practices, seeking to develop a daily awareness of basic trends and influences that bear on marketing. Second, emphasis is on the recognition of management's relations to marketing. Here, marketing is integrated into the larger framework of management's thinking, policies, and programs.

Plastics Tooling, *by Malcolm W. Riley, Associate Editor, Materials & Methods, 123 pp., Reinhold Publishing Corp., (1955), cloth, pocket size,* **$2.50.**

Antibiotics Annual (1954-1955) Proceedings of the Second Annual Symposium on Antibiotics, *Edited by Henry Welch, Ph.D., and Felix Marti-Ibanez, M.D., Chairman: Henry Welch, Ph.D., Director, Division of Antibiotics, Food and Drug Administration, sponsored by U. S. Department of Health, Education and Welfare, Food and Drug Administration, Division of Antibiotics, in collaboration with the Journal (Antibiotics & Chemotherapy), Washington, D.C., 1150 pages containing 174 original works on various aspects on the theory and practice of antibiotic medicine. Cloth,* **$10.**

Ionic Interpretation of Drug Action in Chemotherapeutic Research, *by Alexander V. Tolstoouhov, M.D., Ph.D., Nepera Chemical Co., 276 pp., Chemical Publishing Co., Inc., New York, (1955), cloth,* **$10.**

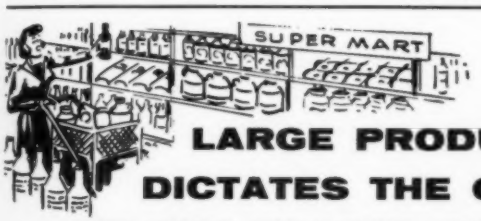
The physiochemical methods advocated by the author of this work offers a means for the quantitative study of the basic problems of chemotherapeutic research and will be welcomed by all research workers engaged in the development of new drugs.

The Perfumery and Essential Oil Record 1955 Annual Directory & Buyers'Guide, *Post-free delivery of The Perfumery and Essential Oil Record 30s. p.a. or 55s. including the Annual Buyers Guide, from The Publishers, Diana House, 33/34 Chiswell St., E.C.1, England.*

This Annual Directory must be a looked-forward to event in England as it is becoming in the United States. Its valuable Buyers' Guide to Essential Oils, Isolates, Aromatic Chemicals and Basic Materials; Guide to Suppliers of Plant, Equipment and Packaging; Essential Oils of the British Pharmacopoeia 1953 and British Pharmaceutical Codex 1954; Dictionary of Perfumery Raw Materials, and the technical sections are invaluable to everyone in this industry.

Soap, Perfumery & Cosmetics Year Book and Buyers' Guide 1955, *Edited by F. V. Wells, Fellow of the Chemical Society, United Trade Press Ltd., London, Cloth,* **£1-10-0.**

This compendium of technical and commercial information for the soap, perfumery, pharmaceutical, cosmetic and allied industries, is now in its 13th Revised Edition. A new section in this work is entitled Dermatology; Histology; Cosmetology. A noted public analyst has brought up to date his General Guide to the official Poisons Lists. The well-known Laboratory Information section has been further extended and rearranged. The 50-page section on Standards and Specifications has been enlarged. The book concludes with a 140 page Buyers' Guide Section listing the principal suppliers of raw materials, containers and packaging materials, plant machinery, etc.



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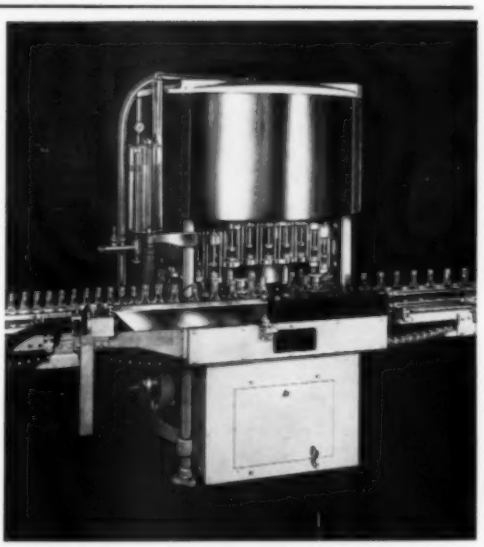

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(*Continued from page 390*)

Manila folder

The clerk entered the job-identifying data (company, code and lot number) and date of receipt of sample.

Assay record card

Clerk again entered job-identifying data (company, code and lot number), constituents requiring assay, label claim for each constituent, stage of production, and date of receipt of sample.

Work sheets

Clerk prepared one sheet for each constituent requiring assay and entered upon it the customer, lot number, stage of production, date, component to be assayed, manufacturing overage, and label claim.

Let's ignore the work sheets for a moment and concentrate on the manila folder and the assay record card. By-and-large, most of the information entered by the clerk on these units had one thing in common—it appeared on the manufacturing card, and hence, on the duplicate of the manufacturing card. So, strangely enough, the one part of the system with most of the data *already on it* was not an integral part of the system. It was, in fact, discarded! Suppose, then, that a modification of this duplicate card was adopted as the permanent record card of the system. Figure 4 shows the card which was chosen as the permanent record card with the duplicate of the manufacturing card "Ditto" printed on it. This is, of course, exactly equivalent to the information which would have appeared on the previous duplicate card. Note that the job-identifying data, constituents, etc. which were formerly entered on the assay record card by hand are all here. This saved a significant amount of processing time. Now let's turn this card over (Fig. 5). This side of the card was custom-printed for the entry of all analytical data. Most of the information pre-printed on this side of the card was previously hand transcribed for each lot of merchandise. This custom-printing eliminated much nonconstructive copying of information which was independent of the specific job. In addition, printing the names of the constituents most frequently assayed also helped to reduced record-keeping time. Perusal of the card shows other printed entries which were formerly transcribed by hand.

This card, then, saved much time previously spent in preparing the permanent record card and, incidentally, provided a complete copy of the manufacturing card for the control records.

Let us now return to the preparation of the individual work sheets—the remaining task before the assay work can get started. Again it is clear that much of the hand-transcribing was of information which appeared on the manufacturing card. All of this time-consuming, nonproductive work was completely eliminated by "Ditto" reproducing the manufacturing card on the back of the work sheets co-

(*Continued on page 404*)

Trade Literature

Infrared Absorption

Electrical Testing Laboratories, 2 East End Avenue, New York 21, have issued a four-page bulletin on Infrared Absorption Spectroscopy. The bulletin, illustrated with charts and a picture of the apparatus, tells the uses of infrared and its advantages. It shows reproductions of the charts for different materials including chemicals and essential oils.

Diamond Alkali Solvents

Diamond Alkali Company, 300 Union Commerce Building, Cleveland 14, Ohio, is offering a 14-page technical bulletin reviewing its complete line of specialized chlorinated solvents. Products discussed are methyl chloride, methylene chloride, chloroform, carbon tetrachloride, and perchlorethylene.

D&O Perfume Specialties

Dodge & Olcott, 180 Varick Street, New York 14, has issued an attractive four-page folder, entitled The Perfume Specialty. With a foreword describing the origin, development, and application of specialties in general, the folder describes eight of the company's newest items in this category.

Electron Microscopes

An eight-page booklet entitled Questions and Answers on Electron Microscopes is available from Research and Control Instruments Division, North American Philips Company, 750 South Fulton Avenue, Mount Vernon, N. Y. Explained are such things as shadow casting, use of the same instrument for electron diffraction, resolution, visual and camera work, specimen preparation, negative and positive replicas, as well as electron and lens theory.

Radioisotope Reagents

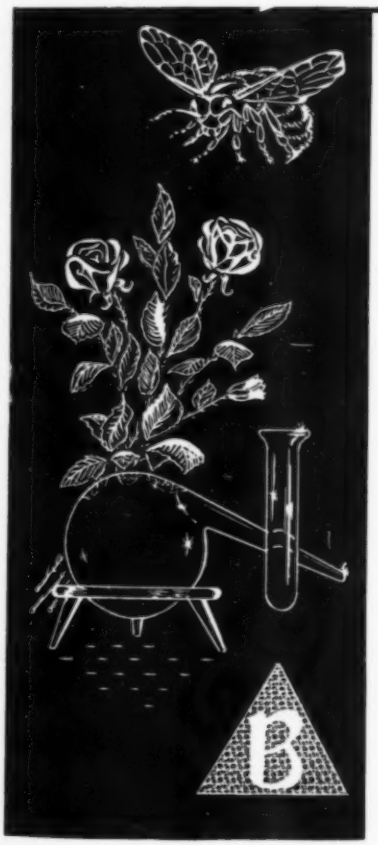
A special 24-page booklet on radioisotope reagents has been issued by General Chemical Division, Allied Chemical & Dye Corporation, 40 Rector Street, New York 6. Listed are more than 130 organic and inorganic radiochemicals including $Carbon_{14}$ labeled compounds and deuterated compounds. Contained in the booklet is an introductory section which gives background information on what radiochemicals are and how they should be used in industrial research.

Geigy Technical Bulletins

Geigy Industrial Chemicals Division of Geigy Chemical Corporation, 80 Barclay Street, New York 8, offers new technical bulletins on Chel DM-41 (trisodium hydroxyethyl ethylelediaminetriacetate) and Chem DM Acid (hydroxyethyl ethylenediaminetriacetic acid). The latter is being offered commercially for the first time. These chemicals are used as sequestering agents.

Kinetic Chemicals Bulletin

The Kinetic Chemicals Division, E. I. du Pont de Nemours & Company, Wilmington 98, Delaware, has issued a new and revised technical bulletin, KTM-14, on Handling Freon Fluorinated Hydrocarbon Compounds in the Laboratory. This 16-page bulletin, containing illustrations and diagrams, should be of particular help to those engaged in laboratory work on aerosols.



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(*Continued from page 402*)

incident with the preparation of the manufacturing card. The reverse side of the work-sheet is shown in Figure 6. The record portion of this form was completely redesigned to minimize preparation time and to improve clarity.

In addition to the time-saving aspects of this new work-sheet, mistakes formerly inevitable in entering job-identifying information, potencies of constituents, etc. were eliminated. A by-product of this modification was that time previously spent by analysts in verifying data copied by the clerk was now saved. The presence of the complete formula on each work sheet also helped to simplify analytical work by indicating to the analyst the presence of constituents capable of causing assay interference.

Our first two goals—reduction of time spent before turning samples over to the laboratory, and reduction of time spent in recording the analytical data—were achieved by the changes indicated. The third major objective—reduction of time required for accumulating and studying data—involved the following modifications.

The aggregation of data in the previous system was a virtual impossibility primarily because of the fact that a separate file folder was used for each lot of merchandise. The time consumed in opening large numbers of folders and studying their contents was the basic problem here. Since all data appearing on the work sheets were summarized on the record card and since permanent laboratory notebooks adequately served as original records, there appeared to be little reason for permanently filing the work-sheets. Elimination of the work sheets from the permanent file also permitted elimination of the manila folder. The record card with the formula on one side and analytical data on the other was now the only unit requiring filing.

We now return to a consideration of possible technics for simplifying the analysis of data entered in the permanent file. As you have seen, we chose a marginally punched card for this permanent record to facilitate information aggregation. It is a relatively simple system, not dependent upon expensive equipment. To briefly review the use of marginally punched cards: meanings are assigned to each hole, or combinations of holes, and these holes are notched to code specific information. A group of cards can then be sorted by running a glorified "ice-pick" through the appropriate holes and collecting the cards that fall off the "ice-pick." We have found this particular system to be as simple as it sounds. Let's look at Figure 5 again and see how this coding procedure has been utilized. We chose to code all constituents assayed on the left hand margin of the card and any manufacturing difficulties on the right hand margin. One of the "sorting fields" at the top portion of the card was used for coding the type of product. The other "sorting fields" on the top of the card were reserved for future needs. The third goal—simplifying

data accumulation—had been achieved by the use of this marginally punched card.

Let's pick up the loose ends and compare the past and present procedures step-by-step.

PAST	PRESENT
1. Duplicate of manufacturing card received in laboratory record office and filed. (Fig. 1)	1. Punched card and work sheets received in laboratory record office and filed. (Figs. 4, 5 & 6)
2. Sample requiring assay arrives.	2. Sample requiring assay arrives.
3. Manila folder made out with lot number, customer code and date.	3. Manila folder no longer used—lot number, customer and code already "Ditto" reproduced on punched card. (Fig. 4)
4. Assay record card made out with customer, lot number, type of product, code, components requiring assay, label claim for each component, stage of production and date of receipt of sample (Fig. 2)	4. Assay record card no longer used — almost all information listed on left (4) already on punched card. Components requiring assay (if not already printed on card), label claim for each component and date of receipt of sample are entered, and the stage of production merely encircled. (Figs 4 & 5)
5. An assay work sheet is made out for each component to be assayed. The following information is added to each work sheet: customer, stage of production, lot number, date, component to be assayed, overage and label claim. (Fig. 3)	5. Work sheets already made out. Almost all of the information listed on left (5) already on work sheet. Label claims for component to be assayed is entered on work sheet (sometimes already on sheet); date also entered. Component to be assayed and stage of production are merely encircled (Fig. 6)
6. Manila folder and assay record card remain in "in process" file while components are assayed.	6. Punched card remains in "in process" file while components are assayed.
7. Assay data entered on assay record card. (Fig. 2)	7. Assay data and analyst's initials entered on punched card. (Fig. 5)

(*Continued on page 406*)

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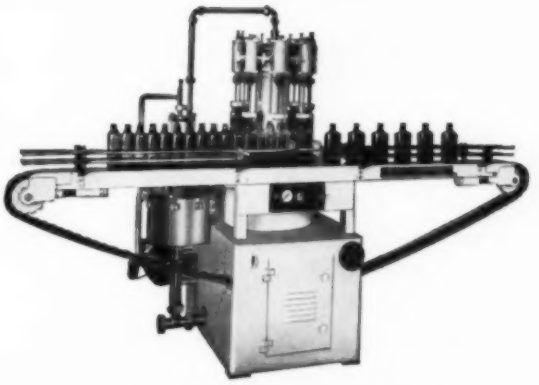

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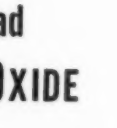
* *The Dispensatory of the United States of America, 1950 Edition*



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PAST (continued)	PRESENT
8. Release of product for further processing or shipment is written in on assay record card. Date is also entered. (Fig. 2)	8. Only release date entered under appropriate column on punched card. (Fig. 5)
9. When product is completely finished, the manila folder, assay record card and the work sheets are permanently filed.	9. When product is completely finished the punched card is coded and permanently filed. The work sheets are discarded.

Summarizing the advantages of the present procedure:

1. Minimizes re-copying mistakes and cuts down nonproductive copying time by "Ditto" reproducing the complete manufacturing formula and job-identifying information on every work sheet and punched card.
2. Saves much time formerly spent by analysts in verifying data re-copied by control laboratory record office clerk.
3. Clearly indicates to the analyst the presence of components capable of causing assay difficulties.
4. Aids in the critical evaluation and improvement of the company's production by providing marginal punching for coding production and analytical difficulties, etc.
5. (a) Eliminates manila folder and assay record card.
   (b) Substitutes punched card for manufacturing card duplicate which was formerly discarded.
   (c) Utilizes less confusing work sheet.
6. Present procedure is less expensive to maintain because of reduced clerical time, fewer component parts and because less file space is utilized. (The files which formerly held records from eight to nine months can now hold an accumulation of four to five years.)
7. Complete manufacturing formula now included in control file.

This detailed case study was presented to show the type of systems analysis and improvement that can be done with record systems. There is nothing particularly sacred about the system that was finally evolved. No doubt other equally effective procedures could have been designed for this particular quality control laboratory. There is also no question that still other improvements can be made in this system. However, the approach is more significant than the specific technics utilized.

Systems and procedures analysis

Systems and procedures analysis and improvement generally adhere to the following pattern. The first step is the determination of the specific goals—what purpose is served, or could be served, by the system?

The next problem involves the elucidation of the current procedure and its complete "blue-printing." This is done by studying operational manuals, if they exist, and by extensive interviewing of supervisory and operating personnel. In this connection, it is important to note that interviewing cannot be limited to supervisory personnel since supervisors sometimes have a foggy notion of the complexity of the detail work done in their departments. All individuals involved in a particular operation must be spoken to in detail. With a complete outline of the present procedure you are then in a position to evaluate each step in terms of the stated goals.

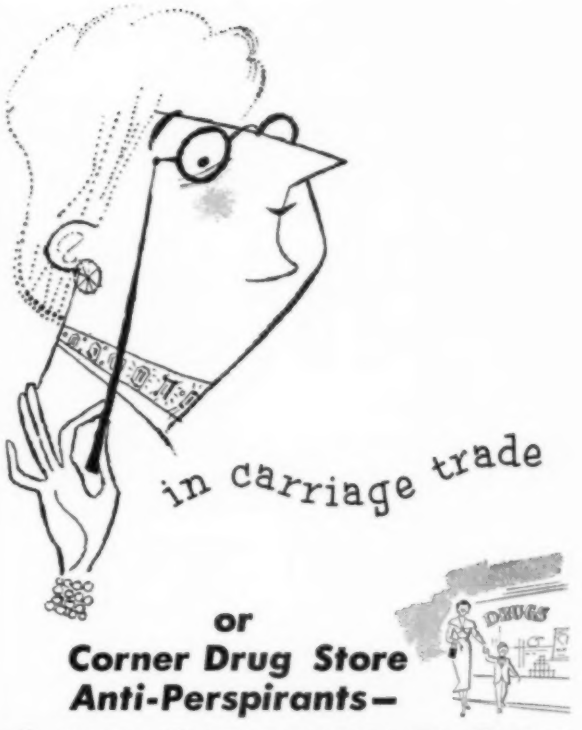
Some basic precautions in systems analysis and improvement are worth noting. In studying a procedure it is well-worth the time required to explain the goal of the analysis to all personnel. By all means, sincerely solicit improvement ideas from operating personnel at all levels. Good ideas are not limited in origin to the top portion of the organizational chart. Be sure to credit the source of the idea. Remember that people frequently react negatively to changes, even if they represent improvements. Take the time to sell the new or improved system to supervisory and operating personnel because failure to convince the people who operate a system of its desirability will help to make it fail regardless of how slick it may actually be. When a system change results in a realignment of work or responsibility be sure that everyone involved appreciates the overall benefit accruing from the change. In summary, be as tactful as possible or your time investment will be wasted.

Conclusions

I'd like to express two other related thoughts before concluding.

Systems analysis and improvement is a good bit more than intellectual exercise—it is a terrific tool for cost reduction. With the squeeze on profits, company managements are again energetically focusing their attentions on technics for reducing the cost of doing business. In fact, a recent survey of 393 company presidents showed that about a third of them felt that "expense control" is currently the dominant business problem[1]. The multiple record-keeping systmes of business provide one of the most fertile fields for effective cost reduction. It has been authoritatively estimated, for example, that 1/3 to ½ of all administrative, accounting and clerical activity characterized as paper work, fails to carry its own weight[2]. A further loss—even more significant—comes from a failure to utilize valuable data which would be capable of pinpointing profitable and unprofitable aspects and trends, because of its burial in cumbersome records.

One final thought. Cost reduction, paper work simplification and record system improvement should be of especial interest to those who serve in company analytical departments. The analytical function in a company—be it quality control or otherwise—is a



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service function frequently thought of by management as "overhead"—a necessary evil tolerated because of government regulations or as a possible source of effective advertising copy. It is not often that company analytical department is looked upon in the same favorable light that bathes the "productive" or "creative" departments. This is frequently evident in mundane matters like salary, for example. This puts the pressure on the analytical department to make effective use of information resulting from its labors for cost reduction, process improvement and so forth. It is not sufficient to render the obvious analytical function and then call it quits. The analytical function must be carried beyond its *obvious* responsibilities. The money-making and saving implications of the analytical function must be continually stressed to the rest of the organization. Speaking specifically of the control function, Wilbur Felker has aptly stressed this broader approach by stating:

> "From my point of view the real total of testing control is not simply in its unremitting efforts to devise better and more efficient tests, to manage and execute all tests so that the results are unimpeachable, or to enlarge the frequency and the portfolio of all tests for better company protection. It should be remembered that a test alone can never raise the quality of a product. An additional and equally important value can be derived by using the accumulated data and knowledge these tests reveal to improve processing operations, anticipate quality variations, reveal and correct sources of error, and generally add to the overall building of quality with advice and recommendations. It is this total view of the testing function which makes it incalculably valuable in any system of quality control."[3]

This approach can only come from the analytical people themselves; no one else can be expected to lead the way in helping to fulfill the potential value of the analytical function.

Acknowledgment

The redesigned record system described above was the result of the collaborative effort of Dr. Robert F. Prindle and the author.

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A ROSY FUTURE

(Continued from page 317)

feeling that surgery in cancer will one day be looked back on as a terrible thing. He said "I know that some day this type of treatment of cancer will be completely unnecessary, but unfortunately, it is the only method of controlling the disease that we know of today."

What type of drugs will be used to treat cancer in the future is quite unknown now. However, the work on leukemia and other forms of the disease is giving some clews. Also there are as yet no indications as to how many different diseases might result from the various forms of cancer, each of which might require different products for their successful treatment. As investigations into the nature of cancer and into possible products for its treatment are continued and expanded, the problem seems to become increasingly complex. There is, indeed, no indication how long it will be before products for the cure and elimination of cancer in any of its forms will be discovered. However, it seems certain that eventually they will be discovered and become routine products of the pharmaceutical manufacturing industry.

Another most important field for research into the development of new and effective remedial agent is that of cardio-vascular diseases. Here is another in which a number of different diseases might be involved. However, it is the most widespread disease entity of any so far as mortality is concerned, and therefore it is a most fertile field for increased volume in pharmaceutical products of the future. Recent progress in this field has been such that research has been highly intensified. It appears certain that a steady flow of new products for this type of disease should flow from the laboratories of pharmaceutical manufacturers with quite some regularity.

The virus diseases represent another field that will succumb to new therapeutic agents, thus adding to the volume of pharmaceutical manufacturers. Attacks upon these diseases are being investigated from many different angles. Vaccines, antibiotics, sulfa drugs, and other forms of drug products that will control one or more of the virus diseases are being searched for in many pharmaceutical laboratories of the pharmaceutical manufacturers of this country. Singly, or in groups, these diseases will eventually come under the control of drug products, adding still more volume to the growth of the industry.

And while these major diseases are the principal targets that the industry is aiming at, there are many diseases of far less serious nature for which remedial agents will be found. The future of the industry is virtually unlimited because no matter how many diseases are conquered through drugs, there will always be others which do not seem serious at the present time. But once these major threats to health and life are removed, we shall see many more which are causing untold misery to those who suffer from them.

NAIL POLISHES

(Continued from page 329)

be, and use them in the correct ratio. Nail enamels containing butyl acetate have a slower drying time than that made with the ethyl acetate. Experimenta-

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tion is necessary to ascertain which solvent should be used to afford the proper drying time, ease of application, good brushing, and the proper setting time.

The next important point in the formulation of this product is the coloring of the vehicle. Although there are many hundreds of different shades of nail enamels on the market, it is not advisable for any one manufacturer, especially a beginner, to market more than six shades. In many cases where lipsticks are manufactured, the nail polish is produced in a duplicate shade. In coloring these formulations, there are several important properties to be desired in the colorants. They must be light resistant, non-staining, show resistance to household detergents, and must have the lowest possible specific gravity so as to render them easily dispersible in the vehicle. They must of course, meet the requirements of the Food and Drug Administration with regards to color certification. This is required by law. Insoluble lake colors with about three to eight per cent titanium dioxide incorporated within them are preferred in these preparations. The mineral colors, such as iron oxide and the ochres, are also used, both for blending and toning the shades.

Perfume is optional with the manufacturer. High quality compounds contain from one to four per cent to cover the unpleasant odor of the solvents. However, should a perfume be used, it must be subjected to a rather stringent series of control tests to ascertain its stability in the product, its effect upon the color of the finished enamel, and its effect upon the applied film.

Manufacturing these products is no simple matter. This was mentioned earlier and is worth repeating. Small manufacturers should purchase finished nail preparations from reputable private label concerns. However, for these manufacturers wishing to experiment with the preparation of nail enamel, a word regarding manufacturing technique is in order.

Dispersion of the pigments is a difficult and sometimes ticklish proposition. It must be done in such a manner as to produce a stable dispersion showing no precipitation upon storage, low order of color throwout, and should produce a relatively high gloss. Several methods are currently in use, and it has been found that the best methods are those in which the color is ground in a pebble or ball mill. Some manufacturers using a ball or pebble mill grind the pigments in the plasticizers before addition of the clear lacquer. Other manufacturers grind the pigments in a solution of nitrocellulose and a small amount of solvent. Then, after the pigments are properly ground, they use this mixture as a coloring base, adding small amounts to a clear lacquer. In any case, it is best to mill the color into some part of the product, either resin solution, plasticizer, or oil.

Nail enamels should undergo rigorous control analysis. Even if the product is manufactured by a private label concern, and re-packaging is done by the small manufacturer, tests should be undertaken to determine the quality of the product.

The following tests should be undertaken on all batches of nail enamel:

1. The color should be checked against a predetermined standard.
2. The total solids should be determined. Fifty grams of nail enamel are weighed into a dried tared drying dish and placed in a 100° C. oven until a constant weight is reached. The residue is weighed back and taken as total solids.
3. A viscosity test should be run by using a Ford cup. Tolerances should be determined from one batch to another and each new batch should subsequently be within these tolerances.

Other tests can be run at the discretion of the manufacturer. The following formulations will illustrate the general nature of nail enamel and nail enamel removers The latter are merely mixtures of solvents, sometimes containing an oil or emollient and are used to remove an unwanted film of nail enamel, as the name implies.

No. 1
Nail Enamel

Nitrocellulose	11.4 per cent
Tricresyl Phosphate	8.3 " "
Dibutyl Phthalate	13.5 " "
Ethyl Acetate	31.5 " "
Butyl Acetate	30.0 " "
Ethanol	4.9 " "
D&C Red No. 19	0.1 " "
D&C Red No. 31	0.2 " "
Oil Pink	0.1 " "

Mix the colors in the dibutyl phthalate and mill the mixture in a ball or pebble mill. Dissolve the nitrocellulose in the ethyl acetate, and add the butyl acetate to this mixture. Slowly incorporate the pigment dispersion in the nitrocellulose solution, and mix with thorough stirring. Finally, add the balance of the ingredients, and stir until the product is uniform. If perfume is to be used, it may be added last. For best results, the enamel should be filled immediately.

No. 2
Nail Enamel

Nitrocellulose	13.1 per cent
Methyl Cellosolve	35.0 " "
Acetone	3.0 " "
Butyl Acetate	25.6 " "
Dioctyl Adipate	13.4 " "
Camphor	3.0 " "
Triethyl Phosphate	6.5 " "
Color	0.4 " "

Dissolve the nitrocellulose and camphor in the methyl cellosolve. Mix the dioctyl adipate and triethyl phosphate, and stir the color pigments into the mixture. Mill until the mass is uniform, and add the milled dispersion to the nitrocellulose solution. Add the balance of the ingredients and stir until the product is homogeneous. Fill at once for best results.

No. 3
Nail Enamel

Nitrocellulose ½ sec Visc.	9.4 per cent
Cellulose Acetate	2.0 " "
Polystyrene	1.3 " "
Carbitol	20.0 " "
Ethyl Acetate	21.5 " "
Diethyl Phthalate	15.0 " "
Camphor	5.0 " "
sopropyl Myristate	3.0 " "
Acetone	22.3 " "
Color	0.5 " "

Mix all of the solvents; carbitol, ethyl acetate, and acetone and add the nitrocellulose, polystyrene, and camphor, stirring until all of these solids are dissolved. Mill the colors with the plasticizers, diethyl phthalate and isopropyl myristate. Add this pigment dispersion to the resin solution, and mix until the color and consistency are homogeneous.

MARKET RESEARCH AND PHARMACEUTICAL ADVERTISING

(Continued from page 320)

tinue blithely in the empiricism of the past. They don't know what they are missing.

Applying Market Research to Advertising

Under the heading of market research in its application to advertising, we find a number of factors. These include consumer research, the search for the qualities or motivation of consumers (so that they may be more easily and effectively reached by advertising); market research (the determination of the present and potential consumer of marketing pattern); media research (which measures the acceptance or consumer interest or participation in a medium); and advertising research (which deals with the ways and means of making copy, art and placement more effective).

There has been in turn increased importance given by market research in the past year to evaluating pharmaceutical advertising and promotional technics, establishment of physician panels, and the development of motivation analyses, determination of potentials of advertising effectiveness, measurement of successful advertising performance, and the development of improved bases for estimating the effectiveness of approaches and media in specialized fields such as hospital and clinic practice, the specialties, and the Armed Services.

Research vs. Analysis

Let's be sure that we understand the difference between advertising research and advertising analysis. Advertising research applies to the application of scientific methods and technics to discover and provide data not previously available, which data can be assembled, refined and applied to the problem. Advertising analysis refers to the use of this new material as well as available information on the product or market, and the application to advertising of deductions derived from it.

Market research may help determine the nature and location of our audience, evaluate the motives to which we should appeal, develop for us a better understanding of our product, its acceptance and potential, but it cannot tell us how to write an advertisement. Market research can detect and measure the target and even indicate the best weapons to employ, but only the advertising manager can select the right

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Also, the compilation and discovery of facts is the responsibility of Market Research, as a service to Advertising. Just the facts, m'am—just the facts! The deductions to be drawn from these facts are the province of Advertising who are the experts in promotion. Never let Market Research start making deductions or recommendations as to how facts should be applied. Intelligent advertising managers know that satisfaction with the quality and extent of one's own advertising is dangerous conceit. Therefore, no matter how much money and effort are expended in obtaining exact and adequate research data, unless the pharmaceutical advertising executive understands their significance and has the knowledge and courage to apply his deductions to his program, it is of no benefit.

Research as a Service

In addition to those research services outlined above, they are many other studies and analyses of special nature which can be carried on by the Market Research group as a service to Advertising. These are almost too numerous to mention and doubtless are well known to you. Let's look at a few of them as they apply to advertising.

We all want to know what the doctor is prescribing. Competition for market research dollars by reporting services has contributed to better prescription study data. Better technics, improved samples, and increased scope and significance of data in prescription and market purchase studies have been evident, but there are still wide gaps in the availability of research data. In many instances these must be provided by individual studies conceived and carried out by the interested Market Research group and the Advertising department.

The Market Research group should provide automatically to the Advertising Manager a constant flow of reports on changing general business conditions, analyses of economic trends, changes in purchasing power, population, etc., in order to keep the latter informed of basic economic changes and trends which may affect the medical market even indirectly.

As well, Advertising Managers should freely ask Market Research for the answers to their questions concerning professional preferences and practices, trends in the industry, and the changing status of the competitive product picture.

The Testing Technic

Research can provide a valuable service to Advertising through "pretesting," using physicians' panels, trade groups or consumer juries, and post-publication studies of readership, recognition, identification, recall and persuasion.

Judging the effectiveness of advertising by "split runs," by personal interviews or mail order testing, the study of sales territorial results based upon opposing types of advertising, or advertising versus

non-advertising, can supply the basis for definite improvement in pharmaceutical promotion.

Market Research has progressed a great deal in its appreciation of the technic and methodology of research and testing. While these research tools are not perfected, they have already reached the stage where they can be applied effectively to medical and pharmaceutical advertising. Properly used, they can avoid many an error and some thousands of dollars for Advertising.

Regardless of whether or not all market research methods are applicable to every phase of medical and pharmaceutical advertising, it is well for us to remember that research can increase advertising effectiveness in proprietary and cosmetic fields as well as in the "ethical" by sales testing by mail and at point of sale, inquiry, readership or split run testing, public opinion polling, studies of readership and persuasion, impact studies, depth interviewing, and the use of mechanical devices to record the response of the physician or consumer.

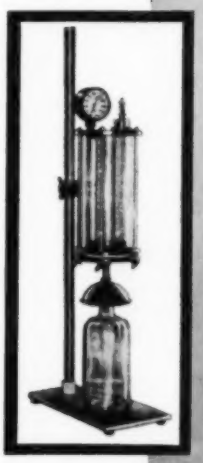
Determining Time and Place

Market Research can be an invaluable tool in determining the optimum timing for advertising. Analysis of one's product sales will show when the product sells best, and where. The sales manager may conclude that these data reveal the seasonal and divisional pattern of the market, and he may be right. By turning to market research, however, where one determines competitive product sales, and attempts to evaluate the influence of the several detailing, sampling and advertising programs, we may discover that the market is actually much different from that which is patterned from one's own sales.

There is much to be learned concerning the value of repetition in medical advertising. Obviously one would assume that the more times a physician is exposed to reading about our product of seeing its name, the greater is his likelihood of prescribing it. Whether this is true of concurrent repetition through different media as much as it may be in saturation of advertising throughout one medium remains to be seen, not to speak of appraising the value of simultaneous multiple page or part page journal advertising, a new technic which is being widely employed in our field.

Studying the Competition

From time to time the volume and placement of advertising emphasis by competitors should be checked by Market Research. Survey the type and volume of direct mail received by physicians and pharmacists. Analyze also the volume and nature of competitors' advertising as compared with one's own protmotion during the same period in a dozen or so representative medical and drug journals. Periodically, using direct mail obtained from cooperative general practitioners or specialists, prescription or hospital pharmacists, that received over a given



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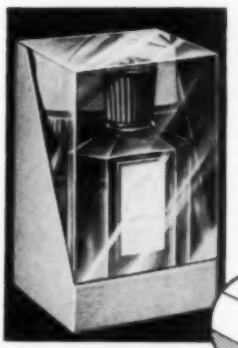

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period of a month, quarter or year can be assembled. The promotion of one or more principal competitors is evaluated against one's own for competing products. Their probable distribution is estimated, and the approximate cost of production and mailing is determined. Careful study is given to the relative impact and retention value of each piece, and the value and effectiveness of competing claims and copy slants, and art and originality appraised.

From such studies the alert Market Research head can help his Advertising Manager appraise the impact and extent of the advertising of competitors' products and determine where and in what proportion additional promotional emphasis should be placed. When estimates of competitive dollar expenditure by product are also compared with the known advertising dollars expended in support of one's own products, the reason for the latter's relative success or failure becomes more readily apparent.

How Much Is a Dollar Worth?

Is direct mail advertising to physicians worth the expenditure of large sums of money annually appropriated by pharmaceutical houses for this purpose?

We all believe that our advertising is honest, believable, interesting and attractive, but whether it is read by physicians to whom it is directed, and whether it influences doctors to prescribe our products cannot easily be determined.

Objective Viewpoint Needed

There are certain internal research studies which can best be carried out on an objective basis. Just as no proud father should judge a baby parade in which his own offspring is a contestant, so it is best to engage an objective and not too sympathetic an eye to review one's own promotion in comparison with that of the competition.

Of course, requests for more information or for samples of a product may be employed as the yardstick of readership. When carefully analyzed individually and over a period of years, these data may give some indication of the acceptance of direct mail. Possibly sales may be the only true measure of effectiveness. However, this too cannot be accepted without taking into consideration all other promotional and advertising support for our products and the influence of our Professional Service staff.

Nevertheless the relative effectiveness of pharmaceutical direct advertising, professional service calls, and other forms of sales promotion can be effectively determined by controlled studies.

Such a survey was recently conducted by an independent marketing firm for the American Medical Association. It showed that physicians have fairly well-established habits in writing prescriptions. Physicians are not influenced by product advertising until they are convinced that the product is clinically proven and offers a better means of therapy than they

are presently using. This survey revealed interesting data concerning the relative importance of detailing, direct mail, scientific papers and journal advertising in bringing information to the physician.

Possibly the most valid method of determining effectiveness of direct mail is by controlled studies. A particular product which has acceptance and the usual advantages and handicaps is selected and promoted solely by direct mail for a period of time. The product's past sales record is compared with sales achieved during the test period of six months, a year, or even longer. The cost of the direct mail advertising is balanced against sales in terms of normal selling and promotional expenses. To even more sharply delineate this type of analysis, the study may be conducted in one or more Sales Divisions with promotion for the product throughout the rest of the country being carried on in accordance with the regular program. A further refinement is to reduce by varying amounts the direct mail support in selected Divisions to determine just how much direct mail support is necessary to maintain sales. Where this technic has been employed, significant variations and results have been noted. This requires the full support of Sales, so Market Research and Advertising had better be on good terms with their merchandising and detailing groups.

What About Sampling?

This technic can be used effectively to determine the value of unrequested sampling as compared with mailings which require the physician to request the product. Even more important is the evaluation of individual products with respect to their applicability to sampling and in the determination of the most effective sample size.

Analyzing Journal Advertising

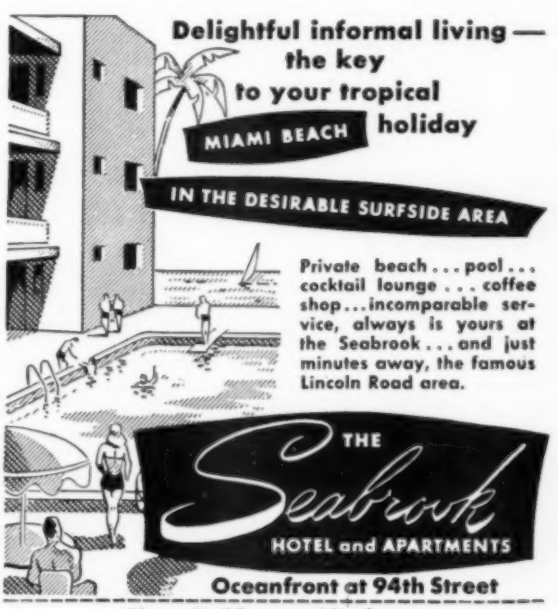
The comparison technic should also be applied to the analysis of medical, drug, and hospital journal advertising. Not only should the copy, art and promotional approach of one's own and competitive advertising be studied, but as well attention given to extent and repetition of coverage, suitability of media and timeliness.

How frequently do we note product advertisements "out of season," or appearing in journals whose physician readership has little or no interest in this type of product. This occurs frequently where programming of media becomes carelessly handled by advertising managers or agency personnel.

The Value of Journal Promotion

Many advertising managers believe that journal advertising is principally of value as a "reminder." This may be true. Where a product and its indications are well known to the medical profession, brief "reminder" advertisements may be most effective. However, others believe that physicians resent the

which jar-disc
IS BEST FOR YOUR PRODUCT?
jar-disc PROTECTS the surface and appearance of your product — keeps the closure dry and clean.
jar-disc gives your product a PRESTIGE look, is oyster white, opaque, matte finish with sturdy .005 "body". The message on a printed jar-disc frequently eliminates a label.
jar-disc costs surprisingly little. Write for samples and quotations on your letterhead. Indicate sizes and quantities. If possible mail sample jar for exact fit.
A. FLAT STYLE for every jar size. Most sizes in stock.
B. PRINTED FLAT STYLE. Saves a direction label while it protects and beautifies.
C. FORMED STYLE. Shaped with a ridge to fit jar opening exactly.
D. HOT STAMPED. Either plain or formed, may be stamped with your logo in gold or color.
E. EMBOSSED. Either style may be embossed or debossed with your logotype.
*NOTE: Some sizes also available in molded polyethelene.
jar-disc
Walter Frank
PACKAGING ENGINEERS
BOX 111 A
ELMHURST, ILL.


Delightful informal living — the key to your tropical MIAMI BEACH holiday
IN THE DESIRABLE SURFSIDE AREA
Private beach . . . pool . . . cocktail lounge . . . coffee shop . . . incomparable service, always is yours at the Seabrook . . . and just minutes away, the famous Lincoln Road area.
THE Seabrook
HOTEL and APARTMENTS
Oceanfront at 94th Street
Please Mail Rates and Brochures to:
Name
Street
City
State

PARTITION MANUFACTURING COMPANY

CARDBOARD PARTITIONS AND SPECIALTIES

165-173 FRANKLIN AVENUE • BROOKLYN 5, N. Y. • ULSTER 5-8100

Gentlemen:

Fragile items require careful packing for safe transportation. 40 years of partition manufacturing experience is assurance that your partition needs, regardless of size or quantity will be GIVEN exacting care.

Suggestions, samples and estimates promptly mailed

Very truly yours,

PARTITION MANUFACTURING CO.

DECORATIVE EDGED

UTILITY PARTITIONS

WANTED: Salesmen to sell above items. Write for particulars.

ERTEL ASBESTOS FILTER SHEETS

... Used where performance counts!

Ertel asbestos sheets are available in ten uniform grades for all filters up to 25" square. Manufactured under rigid control, they are acid treated to meet Ertel standards of low leachable calcium and iron content. Sheets are checked constantly by a reputable analytical laboratory . . . Copies of their reports are available.

If you are not already a user of Ertel sheets, try them at no obligation on your next filtration run. We will test filter your product at no charge in our laboratory in order to recommend the correct grade.

ERTEL ENGINEERING

CORPORATION

KINGSTON 1 NEW YORK

ERTEL

lack of information to be found in the average medical journal advertisement. Where a new product or a new development in therapy is to be presented to physicians, the problem of presenting adequate information is not an easy one. The question then becomes: "How long can medical advertising copy be—and still be read?"

Market Research can evaluate the readership of informational copy. It can determine the relative importance of mass copy on single pages or in multiple page units. It is possible also to evaluate the impact of the lengthy copy announcement. The thoroughness of readership, type of reader reaction, and influence of the journal advertisement information on prescribing habits can also be developed. However, research will probably reveal that extensive copy of multiple page advertisements scare away as many readers as are attracted. It would be a mistake to ignore the lessons which can be learned from such studies.

The pharmaceutical industry does very little pre- or post-testing of its advertising, its design and copy appeals, and its media. We should develop greater skill in the testing promotion. Market Research and Advertising should delve deeper into the statistics of our market. We should verify or destroy once and for all many of the credos of pharmaceutical advertising which have long been accepted but never proven.

Does This Medium Pay?

In today's market all methods of advertising must be evaluated from time to time. Naturally, one must give some consideration to the claims of the proponents of various advertising types of media. Some of these studies are quite good, but each course is carefully designed to place a certain medium in its best light. This is understandable. We do the same in promoting our products. However, when these media claim conflict with other data to a major degree or with our knowledge of experience, a "check" is in order. Then Advertising should call upon their Market Research friends to find the truth.

For instance, we have always had some doubt as to the value of a certain special promotion to the average general practitioner. Before making our usual commitment for space in this well-known annual reference book, our marketing group directly and through our field staff made two extensive objective and subjective studies on this medium to determine if physicians still had the book, could readily locate it in their office, were actually using it, or merely said that they referred to it. The same was done among druggists with the familiar "price books." The reports were quite favorable, and we increased our space—even though we considered their rates excessive.

Research Must Be Self Critical

If Market Research is to serve pharmaceutical advertising well, it must look more carefully at itself.

It must enlarge its own responsibility and improve its performance.

Advertising is going to depend more and more upon research to guide and support its decisions. This does not mean that in the future, Research data will be more dependable and useful, nor that Advertising will use Research more profitably or prudently than in the past.

In general, where they work together in our industry and profession, Advertising has been content to be optimistic about Market Research. It uses whatever is available for whatever it is worth, without being too critical or demanding. As Advertising progressively uses more and more research, it seems to be less and less interested in and concerned with the quality and direction of this work. There is too much trust and to little understanding of the "how" and "why" of research.

Now smart advertising men are questioning their research data. They are beginning to demand research of a finer and more efficient nature. They are moving into the newer concepts and technics, such as analyses or motivations. This may represent a serious challenge to the old-fashioned type of market research thinking so common among the pharmaceutical advertising fraternity. *(To be concluded)*

PATENTS THOUGHTS AND TRENDS

(Continued from page 359)

7. Generic or Non-Proprietary Names

Practically all countries refused to grant trademark rights regarding generic names or names that described the kind of product and which are common to the trade. Nevertheless there are two serious problems for pharmaceutical trade-marks.

First, certain persons, in non-common law countries especially, attempt to register generic names so as to prevent legitimate manufacturers and traders from using them. While such claims may be defeated many times it usually takes a court action to do so. Furthermore since the names often deal with newly invented or formulated products, foreign patent offices or courts may not admit that such a name is generic in their country since it may not have been actually used by the trade of that country. Ladas points out that this situation has led respectable U. S. manufacturers to register generic names in foreign countries not for the purpose of monopolizing such names but to prevent pirates from attempting to register them. This action arouses suspicion of competitors as well as confusion.

To show what the situation is Ladas lists the following pharmaceutical generic or descriptive words filed for registration in foreign countries in 1953 alone and which American manufacturers or associations in this country had to oppose.

CORTISONE
PENICILLIN *(Continued on page 418)*

Beautiful Crystal Glass Miniature Bottles

Supplied with leak proof screw stoppers flat and Rosette types (in jewel like colors).

Will help increase consumer interest and sales in your fine perfumes.

Also ideal for selling empty as collectors' items, souvenirs and Christmas Ornaments.

Available in many very attractive styles.

Write for Catalogue

SPECIAL GLASS PRODUCTS COMPANY
10 West 33rd Street, New York 1, N. Y.

American

Aromatics

Perfume Compositions
Essential Oils
Aromatic Chemicals

24 East 21st Street, New York 10, N.Y.
GR7-6313

Huisking

CHEMICALS

PHARMACEUTICAL INDUSTRIAL

OILS • VITAMINS • DRUGS • RAW MATERIALS

Importers Exporters Manufacturers

CAMPHOR USP POWDER *DuPont*
CAMPHOR USP TABLETS ½ & 1 OZ. *Tower Brand*
QUININE & SALTS *Braunschweig*
QUINIDINE & SALTS *Braunschweig*
HYOSCINE HYDROBROMIDE
HYOSCYAMINE *Hydrobr. & Sulfate*
SUGAR OF MILK USP & Commercial
CHLOROPHYLL *Allen's*
MENTHOL USP
ATROPINE SULFATE & ALKALOID
THYMOL NF *Crystals*
EPHEDRINE HYDROCHLORIDE USP
BRUCINE SALTS
ICHTHAMMOL
SULFUR USP PRECIP. *English*
MAGNESIUM CARBONATE USP *Blocks*
NAPHTHALENE
HAARLEM OIL

COD LIVER OIL USP
Peder Devold
ALL POTENCIES
•
For Poultry & Animal Feeding:
COD LIVER OIL Devolked®
USP & Fortified Grades
VITAMIN A&D FEEDING OILS
Devold
•
WHEAT GERM OIL
Peder Devold

SANTONIN and ALKALOIDS of American Manufacture

CHAS. L. HUISKING & CO., INC.
PEDER DEVOLD OIL CO. DIV. SANTONINE CO. OF AMERICA DIV.
215 FOURTH AVENUE, NEW YORK 3, N. Y.
Factory & Warehouse: 45 CLINTON AVENUE, BROOKLYN 5, N. Y.
Telephone: GRamercy 5-3900
Telegrams: HUISKING, WUX, NEW YORK
Cables: HUISKING, NEW YORK
London Agents:
Wheeler & Huisking Ltd.
26 Great Tower St., E.C.3
Since 1910

Cost Saving AUTOMATIC STERILE VIAL STOPPERING

AUTOMATIC
VIAL STOPPERING
Model RS-100 C

Unmatched mechanical simplicity insures automatic trouble-free hoppering, chuting and sterile insertion of stoppers into pharmaceutical vials at speeds up to 120 a minute. Vials up to 50cc capacity are conveyed without the use of accessories. Ingenious, simplified design facilitates disassembly of chrome and stainless contact parts for cleaning and sterilization. Using it in conjunction with the PerfeKtum liquid Vialfil, Model CF-6 or a powder filler, it assures steady, economical vial packaging.

PerfeKtum

Write for catalog #454 describing entire line of PerfeKtum equipment, including new rubber stoppering and aluminum crimping machines.

EST. 1922 **POPPER & SONS, INC.**
300 FOURTH AVENUE,
NEW YORK 10, N. Y.

(Continued from page 417)

INTRARECTAL	AMINO ACID
HISTAMINE	ISONIAZID
CHLOROPHYLLIN	CODEINE
CHLOROPHYLL	HOSPITAL
CALCIUM	TESTOSTERONE
ANTACID	ACETOPYRINE
SALICYMIDE	PENICILINA
ANTI MICROBE	AMPHETAMINE
HYDROLYSATE	STREPTOMYCIN
VEGETABLE COMPOUND	CARBOMYCIN
VITAMIN	PROGESTERONE
CHLORO VITAMIN	B 12
DRAGEES	INFANTILE MEDICINE
	THERAPY
	PEDIATRICS
AMINOPHYLLINE	MEDICAL
VACCINE SOLVENT	B-COMPLEX
VITAMIN DROPS	PEPSIN
HYDROCHLORO-PHYL	HEMATINIC LIME
	POWDERED
PHENOTHIAZINE	GLYCOL
DIGITALIN	ANTIBIOTIC

The solution to this problem "is a real puzzle" according to Ladas. The writer adds his assent to this statement.

The work of the World Health Organization on proprietary names is mentioned by Ladas as being of some help, insofar as its present program is concerned. It has set up a program for adopting international generic names, a highly desirable end. In order that existing trade-mark rights may not be impaired WHO will not select a name where a formal written objection to it exists.

8. Transformation of Pharmaceutical Trade-Marks into Generic Names

This is a serious problem where the product is patented in the U. S. A. If the trade-mark has become the name of the product the trade-mark rights will be lost upon the expiration of the patent rights in the U. S. A. It is for this reason that a drug manufacturer should create two marks, one a generic name and the other a trade-mark where the product is patented. When the patent expires the trade-mark rights will still continue. The same is true of British countries according to Ladas.

In other countries, such as Germany, France, and Italy, the expiration of a patent has no influence on the validity of a trade-mark so there is no need for the owner of such a trade-mark to devise and use a generic name for the products in addition to the trade-mark. Indeed European pharmaceutical manufacturers consider it inadvisable to use a generic name because it enables competitors to come out with a similar product under a different mark but using the same generic word.

With regard to the transformation of a trade-mark into a generic term Ladas said that under French, Swiss, Germany, and Italian law, and in other civil law countries, generally, a registered trade-mark rarely and exceptionally will fall into the public domain no matter how far such mark may actually have become the name of the product in the eyes of the general public. The opposite is true in the U. S. A. and British countries.

It is therefore seen that registered trade-marks are more valuable in civil law countries than in the U. S. A. and the British countries.

Notwithstanding all of the foregoing Ladas says that:

> the wise practice is to use even in foreign countries a generic name in conjunction with pharmaceutical trade-marks because the scope of protection of such a trade-mark will then be much broader and its protection against imitation much more secure.

9. Licensing Arrangements

In view of the expansion of the U. S. drug industry into foreign markets and cooperative ventures with foreign concerns, this question is important. Ladas recommends that the American manufacturer retains ownership of the trade-mark so that if the arrangement is terminated for any reason the American will continue to own his trade-mark and be able to export the product or make arrangements with another firm.

Ladas properly points out that license arrangements under the law of some countries involve some very delicate points and may entail serious risks for the trade-mark. In this connection he classifies the various countries according to the following groups:

(a) Countries where a trade-mark may be licensed only through the procedure of the so-called Registered User. These are most of the British countries today.

(b) Countries in which a trade-mark license must be recorded in the Patent Office.

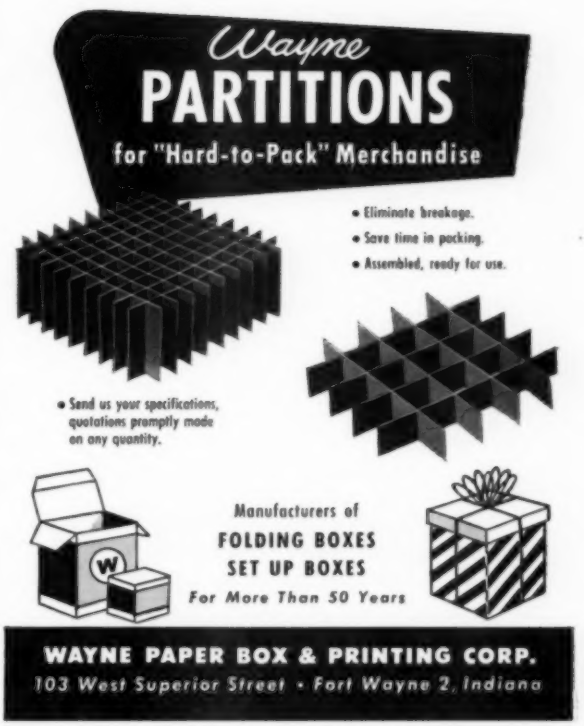
(c) Countries in which a trade-mark license is unlawful and may invalidate the trade-mark.

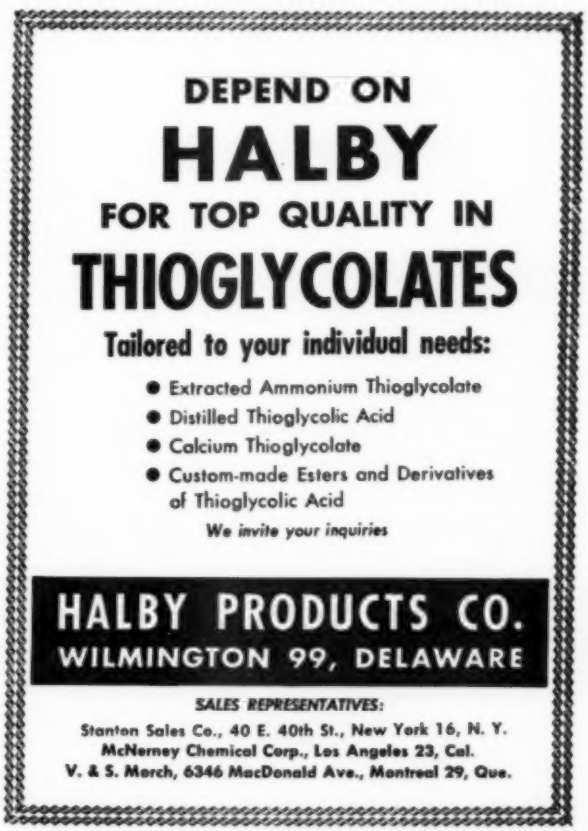
(d) Countries in which a license, though generally not lawful, may nevertheless be tolerated under specific conditions and terms.

(e) Countries in which a trade-mark license is entirely lawful and is not subject to any conditions or requirements.

RECENT PATENTS

2,099,696—**Marcus, Treatment of psoriasis and**
2,703,777—**Iso-Sol Co.—Ophthalmological Prepns.**
2,703,778—**E. T. Krebs et al—Therapeutic Emulsin Complex for Treatment of Intestinal Fermentation.**
2,709,672—**Am. Cyanamid—Chlortetracycline Production.**


Wayne
PARTITIONS
for "Hard-to-Pack" Merchandise
• Eliminate breakage.
• Save time in packing.
• Assembled, ready for use.
• Send us your specifications, quotations promptly made on any quantity.
Manufacturers of
FOLDING BOXES
SET UP BOXES
For More Than 50 Years
WAYNE PAPER BOX & PRINTING CORP.
103 West Superior Street • Fort Wayne 2, Indiana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HALBY
FOR TOP QUALITY IN
THIOGLYCOLATES
Tailored to your individual needs:
• Extracted Ammonium Thioglycolate
• Distilled Thioglycolic Acid
• Calcium Thioglycolate
• Custom-made Esters and Derivatives of Thioglycolic Acid
We invite your inquiries
HALBY PRODUCTS CO.
WILMINGTON 99, DELAWARE
SALES REPRESENTATIVES:
Stanton Sales Co., 40 E. 40th St., New York 16, N. Y.
McNerney Chemical Corp., Los Angeles 23, Cal.
V. & S. March, 6346 MacDonald Ave., Montreal 29, Que.

GLASS ROD APPLICATORS

Here are Super-Quality applicators at a nominal cost. You owe it to your product to afford it the best applicator possible.

Caps available in all sizes with all types of liners.

Samples and prices will gladly be submitted.

Glass Products Co.
Established 1922
Vineland, New Jersey

VoC

NEOMYCIN SULFATE

Microatomized
Regular Powder

An antibiotic with an unusual degree of stability for topical, oral and parenteral use.

Literature and samples available on request.

a dependable source for hormones and fine chemicals

VITAMERICAN OIL CORPORATION
1 John Street, Paterson 2, New Jersey

2,709,683—Koppers—Detergent Polyglycol-Phenol Condensation Products.

2,709-684-5—Calif. Research Corp.—Non-caking Detergents.

2,709,700—Am. Home Products—Penicillin Salt of Bis-(Alpha-Phenethyl)-Ethylene Diamine.

2,709,701—G. D. Searle—Bisnorcholanyl - Phenyl-thiazoles.

2,709,705—Olin Mathieson — 16α - Hydroxyprogesterone, 16α - Hydroxydihydroprogesterone and Esters.

2,709,711-2—Eastman Kodak — Carotenoid Polyenes Synthesis.

2,710-293-4—Olin Mathieson — Blood Fractionation.

2,710-296—Eli Lilly—Substituted Triazoles.

2,710,298—Merck—Biocytin.

2,710,304—A. C. J. Opfermann—Cystein and Isocystein Hydrohalides Production.

2,710,810—U. S. A.—Dehydration of Biological Materials.

2,710,823,4—Schenley—Fungicides.

*2,710,825**—See below.

2,710,863—Labs. Francais De Chimiotherapie (France)—Penicillin Benzhydryl-Amine Salt.

2,710,864—Nepera — Methoxyphenylheptylamine Salt of Penicillin.

2,710,867—G. D. Searle—2-Amino-4-Pyrimidols.

2,710,868—Labs. Francais De Chimiotherapie (France)—Barbituric Acid Derivatives.

2,711,384—Allied Chem.—Di(4 - Chlorophenyl) - Ethinyl Carbinol Synergist for Killing DDT-Resistant Flies.

2,711,397—Gen. Aniline—Stabilized Cream Shampoo.

2,711,409,10,11—Chattanooga Medicine Co.—Salts of 8-Halotheophylline.

2,711,412—Ciba—Dioxopiperidines.

2,711,413—Indiana Univ. Found.—5 - Phenyl - 5(3-Thienyl)-Hydantoin.

2,711,421—Ciba — P - Allyloxy - Thiono - Carbanilate Esters.

2,711,424—Cilag Ltd. (Switzerland) — Esters of Symmetrical Trihalogenated Phenols X-Ray Contrast Agents.

2,711,942—U. J. Jacquet—Container for Deodorant Dispersing Bottles.

2,711,988—Am. Home Products—Estrogenic Sulfates Extraction Process.

2,712,007—U. S. A.—Fractionation of Dextrans.

2,712,008—U. S. A.—Terpeneless Essential Oils Production.

2,712,009,10—Am. Home Products—Habit-Modified Procaine Penicillin Production.

**2,710,825*—Food Mach. & Chem. Corp.—Perfume Composition Containing beta-(4-methyl-cyclohexyl) butyraldehyde.

2,712,011,12—Am. Cyanamid — 3 - Sulfonamids - 6-Substituted Pyridazines.

2,712,014—Cilag (Switzerland) — Nicotinic Acid Amide Derivatives.
2,712,018—Knoll A.-G. (German)—Recovery of Opium Alkaloids from Opium.
2,712,020—Burroughs Wellcome — Heterocyclic Allylamines.
2,712,021—Nepera — Glucuronolactone Reaction Product.
2,712,022—Eurroughs Wellcome — Heterocyclic Amino Alcohols.
2,712,023—Burroughs Wellcome — Alkyl Substituted Antihistamines.
2,712,024—International Hormones — Adrenochromes Haemostats.
2,712,027—Syntex S.A. (Mexico)—Allopregnane-3β, 11αm 20β-Triols.
2,712,028—Am. Syntex (Puerto Rico)—Prepn. of 11α-Acyloxy-3, 20-Diketo Pregnanes.
2,712,515—Merck—Process for Separating Vitamin A Palmitate
2,712,529—Procter & Gamble—Detergent Composition.
2,712,530—Esso Research & Eng.—Sulfonate Detergent Blend.
2,712,541—Simon L. Ruskin—Adenosine-6-Phosphoric Acid and Salts.
2,712,542—Warner-Hudnut—2 - (3 - Pyridazonyl) - Acids.
2,712,553—J. Feltzin—Methionine Synthesis.
2,713,019—Allied Labs.—Antibiotic Preparation Containing Polyethylene Glycol Diester as Vehicle.
2,713,020—Bristol Labs. — Repository Bismuth Subsalicylate.
2,713,021—Armour & Co. — Counter - Current Fractionation of Adrenocorticotrophic Hormone Substances.
2,713,036—Monsanto—Antiseptic Soap.
2,713,045—C. H. Boehringer (Germany)—Prepn. of Peptides.
2,713,047—Monsanto—6 - Diethylamino - 1, 2 - Dihydroquinolines.
2,713,048—Abbott Labs.—Pyridyl Thenylamines.
2,713,049—Olin Mathieson — Pyridinecarboxylic Acid-1-Oxides.
2,713,050-1—Wallace & Tiernan—α-Phenyl-γ-(2-Pyridyl)-Butyronitriles and Acids.
2,713,052—Hoffmann-La Roche—Pyridienes.
2,713,053—Monsanto — 2, 2' - Thiobis (5 - Acyl - 4-Alkylthiazoles).
2,713,061,2—Schering (Germany—3-Methyl Androstanes and Androstandiols.
2,713,065—G. D. Searle — α - Acetophenylcinnamonitriles.
2,713,068-70—Monsanto — Alkoxy Substituted Naphthalenones and Naphthalenals.
2,713,577—Wisconsin Alumni R. F.—Isolating and Purifying Coenzyme A.
2,713,578—Commercial Solvents—Penicillin Salt of 2-Aminotetrahydropyridine.

YOUR CONTACT WITH THE WORLD'S MARKETS
ROBECO
ESTABLISHED 1918

INDUSTRIAL and PHARMACEUTICAL CHEMICALS

NATURAL PRODUCTS

OILS WAXES

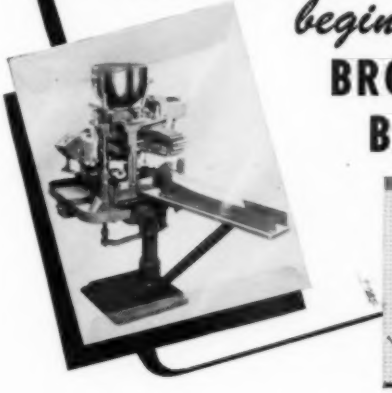
CAMPHOR MENTHOL
U.S.P.
NATURAL — SYNTHETIC

CERESIN WAX
(OZOKERITE)
WHITE • YELLOW
ALL MELTING POINTS

GLYCINE N. F.
(AMINO ACETIC ACID)

ROBECO CHEMICALS, INC.
25 EAST 26th ST., NEW YORK 10, N. Y.
CABLE ADDRESS "RODRUG" N.Y. ALL CODES
MUrray Hill 3-7500

Packet Filling Economy *begins with* **BROWN BAG**



Brown Bag Automatic Filling and Sealing Machines attractively packet all types of dry, free-flowing materials economically. Drug manufacturers, by the score, have gained national recognition and distribution with quantities up to an ounce, of bath salts, face powders, hair rinse powders and shampoos.
Let us quote you on your packet requirements.

BROWN BAG FILLING MACHINE CO., INC., FITCHBURG, MASS.

West Coast Representatives: Peter D. Bowley & Assoc., 210 Mississippi Street, San Francisco, California.

"PADDIE PUFFS"

are specially manufactured —

To insure excellent make-up application

Adopted by leading Cosmetic Houses because they are designed for pressed powder make-up.

Machine made in uniform size and various thicknesses.

Note the rounded edge to avoid streaks in the make-up, and the attractive satin top for your gold imprint.

You owe your fine cosmetics the best puffs ever designed to insure excellent make-up application.

Write for samples and prices.

VALCOURT PADDIES Patent No. 2-337-695

VALCOURT, INC.

100 West 22nd Street, New York 11, N. Y.

2,713,584—O. Gisvold — Isolating Chlorophyll Constituents of Plant Materials.
2,713,587—G. D. Searle — 11, 17 - Dihydroxy - 4 - Prenene-3, 20-Dione.
2,713,588—Upjohn — 3β, 11α - Dihydroxyallopregnane-20-One and Esters.
2,714,068—Am. Home Products—Diacasein.
2,714,082—Imperial Chem. Industries (Gt. Britain)—Oxazolines.
2,714,083—E. A. Ferguson, Jr.—Appetite Satient.
2,714,084—V. M. Hermelin — Enteric Coated Tablet.
2,714,106—Sterling Drug — N - Glycolylarsanilate Salts of Chloroquine.
2,714,107—Hoffmann-La Roche — Racemization Procedure for 1-(P-Methoxybenzyl)-2-Methyl 1, 2, 3, 4, 5, 6, 7, 8-Octahydroisoquinoline.
2,714,108—Ciba Pharmaceutical Products — Piperidyl Alkyl Ketones.
2,714,109—Dr. Karl Thomas G. m. b. H.-(Germany)—Production of Nicotinic Acid Esters.
2,714,112—Ciba Pharm. Products—Manufacture of Unsaturated Androstanes.

Court Cases

U.S. 2,498,727—J. R. Verblen, Isopropyl palmitate solution of lanolin cosmetic.

PRINTING INKS AND PACKAGING

(Continued from page 339)

bandages) must be sterilized after it has been packaged and wrapped. One pharmaceutical firm specifies when ordering for this type of package that the ink must be able to withstand 30 pounds of steam pressure in an autoclave at 350° F. for 30 minutes. In compounding this ink it is essential to use ingredients which will not soften and smear the package during the heat. The pigment must not burn out. The varnish should not absorb moisture, for this would increase the drying time after sterilization and also smear the package.

IPI reports that one of its customers had used a certain ink on its labels for quite some time, with fine results, when suddenly spots began to appear, and the ink itself changed from a buff to green color.

It happened that the customer had switched its label adhesive, and the new adhesive was reacting with the ink which had to be reformulated.

The label on a bread wrapper is another case point. Green ink on the ends of the wrapper was coming off on the bread, making it appear moldy. The ink had to be adjusted because the original formula was reacting with a new plasticizer used in their heat-sealing operation.

Such unexpected difficulties are apt to occur at any moment when ordering inks for new labels and new products. It would certainly be embarassing for a cosmetic firm to sell a cologne whose attractive label

reacted with the product. If the customer happened to pick up the bottle, with cologne on her hands, the ink would stain her fingers. The chances are she would not buy the item again. While these labelling errors occur very infrequently, the possibility always exists. Both the cosmetic and pharmaceutical people can save themselves a great deal of worry and trouble if they will see that the proper information is passed on to the ink maker whenever they order a new batch of ink.

COSMETIC DEVELOPMENT

(Continued from page 325)

such development will take place. Other special groups or classes of cosmetics will undoubtedly be developed for teen-age boys as well as for babies. Teen-age boys are quite large users of hair preparations and other toiletries and they present a market for which many new types of cosmetics can be developed with considerable success.

While the baby market has received a very large share of attention for many years, some products, such as hair dressings, deodorants, and others, have not been given any noticeable degree of attention. The sharp increase in births during the last ten years or more has caused many manufacturers to feel that they are doing very well in cultivating this field. However, there is much more business to be had in the baby field if the manufacturers will present the products that a large share of the mothers would buy if they were available. After all, under present economic conditions, the young mothers generally have the wherewithall and the opportunity to give greater care to their babies than their mothers had.

WAVE SETS

(Continued from page 323)

though, is the ability of its alcoholic solution to tolerate large quantities of the propellent without precipitating. P. V. P. has therefore become the principal ingredient of most of the propellent hair lacquers on the market.

In any discussion of the aerosols there are a few basic facts that should be made clear, if not already known to the reader. I have referred to the use of absolute alcohol in conjunction with these propellents, and for a good reason. The propellents now in general use are fluoro hydrocarbons modified with the introduction into the molecule of some chlorine atoms in order that the vapor pressure be lowered and the boiling point raised. The carbon to fl uorine bond is very stable and not easily disrupted. Carbon and chlorine however is not quite so stable and subject to some hydrolysis. The presence of water therefore in even the smallest quantities could start the hydrolysis of these compounds with accompanying release of hydrochloric acid. The hydrochloric acid would

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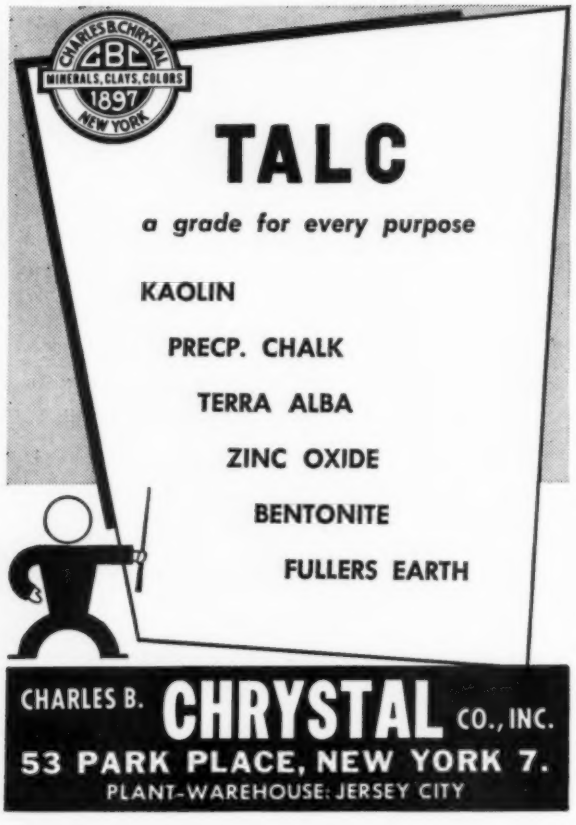

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then attack the metal container and start corrosion causing a marked lowering of the shelf life of the product or to attack the metal exposed portions of the valve causing it to stop functioning. The use of absolute alcohol therefore becomes necessary.

Absolute alcohol is capable of dissolving substances which are not completely soluble in the ordinary 95 per cent alcohol of commerce. The alcoholic concentrate containing the P. V. P. may also contain certain plasticizers not associated with easy solubility in 95 per cent alcohol.

P. V. P. has one drawback, however, its marked hygroscopicity. This would become evident on a highly humid day when the hair would begin to feel sticky. To counteract these effects a small amount of shellac may be incorporated since the common solvent effect of the P. V. P. will prevent its precipitation with the addition of the propellents, and this addition can cut down the hygroscopicity of the film. Plasticizers are usually used which are lanolin derivatives and seem to function well, as well as to serve as a basis for further advertising claims.

The important thing that P. V. P. has done, however, is to enable the manufacturer to raise the concentration of the propellant to a point at which the effect of its non-inflammability overcomes the tendency of the alcohol to ignite. Though it would not be advisable to apply this type of spray in close proximity to a large open flame the dangers are considerably lessened.

NON-OILY CREAMS

(Continued from page 327)

	Vanishing Cream No. 2
Polyethylene glycol 400 monostearate	4.5
Glyceryl monostearate	5.5
Stearic acid	11.6
Mineral oil	2.0
Butyl stearate	1.0
Preservative	0.1
Glycerin	1.7
Triethanolamine	0.5
Water	73.1

	All Purpose Cream No. 3
Polyethylene glycol 1000 monostearate	6.0
Glyceryl monostearate	4.5
Stearic acid	7.2
Isopropyl myristate	4.3
Lanolin	1.0
Preservative	0.1
Propylene glycol	2.5
Water	74.4

	Brushless Shave Cream No. 1
Polyethylene glycol 600 monostearate	10.0
Stearic acid	10.0
Mineral oil	2.0
Butyl stearate	5.0
Spermaceti	5.0
Preservative	0.1
Water	67.9

All of these formulas can be prepared in the same way, namely, by heating all of the ingredients together to 85° and stirring until cold. Perfume is added below 50°.

	Hand Cream[2] No. 263/5	Vanishing Cream[3] No. 3347
Tegin	12.0	4.0
Stearic acid	....	16.0
Mineral oil	2.0	1.0
Lanolin	....	1.0
Glycerin	5.0	3.0
Spermaceti	5.0	....
Triethanolamine	....	0.5
Water	76.0	74.5

	Vanishing Cream[3] No. 333	Brushless Shave[3] Cream No. 103149
Tegin P	3.5	4.0
Stearic acid	16.4	17.0
Mineral oil	2.0	....
Lanolin	1.0	0.5
Glycerin	1.7	2.0
Petrolatum	....	2.0
Cocoa butter	....	1.0
Triethanolamine	0.8	0.75
Water	74.6	72.75

	Vanishing Cream[3]	
	No. 58	No. 84[3]
Tego stearate	6.5	....
Tegacid	....	15.0
Glycerin	5.0	3.0
Stearic acid	6.5	....
Spermaceti	5.0	5.0
Mineral oil	2.0	....
Water	75.0	75.0
Titanium dioxide	....	2.0

Tegin[3] is a self-emulsifying grade of glyceryl monostearate.

Tego Stearate[3] is a self-emulsifying grade of glyceryl monostearate.

Tegin P[3] is a self-emulsifying grade of propylene glycol monostearate.

Tegacid[3] is a special type of self-emulsifying glyceryl monostearate for preparing acid-stable emulsions.

All of the ingredients are heated together to 90 to 100° C. and stirred, with stirring continued until the mixture reaches room temperature. A suitable preservative should be included in the cream and perfume should be added when the mixture is below 50° C.

	Hand Cream[3] No. 3	Brushless[3] Shave No. 6
Lanolin	1.84	0.70
Mineral oil	2.14	....
Stearic acid	11.60	15.70
Diethylene glycol monostearate	4.60	....
Veegum	1.92	1.25
Water	67.15	72.11
Glycerin	6.15	10.00
Triethanolamine	0.92	....
Potassium hydroxide	....	0.22
Sodium hydroxide	....	0.02
Alcohol	3.68	....

Veegum[5] is a complex colloidal magnesium aluminum silicate refined from a naturally occurring mineral base.

The Veegum is mixed with the water until a smooth mixture results, alkalies and glycerin added, and the whole heated to 75° C. The oils are heated together to 75° and then mixed with the alkaline gum solution and stirring continued to room temperature.

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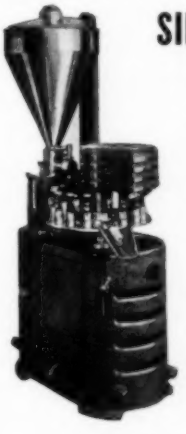

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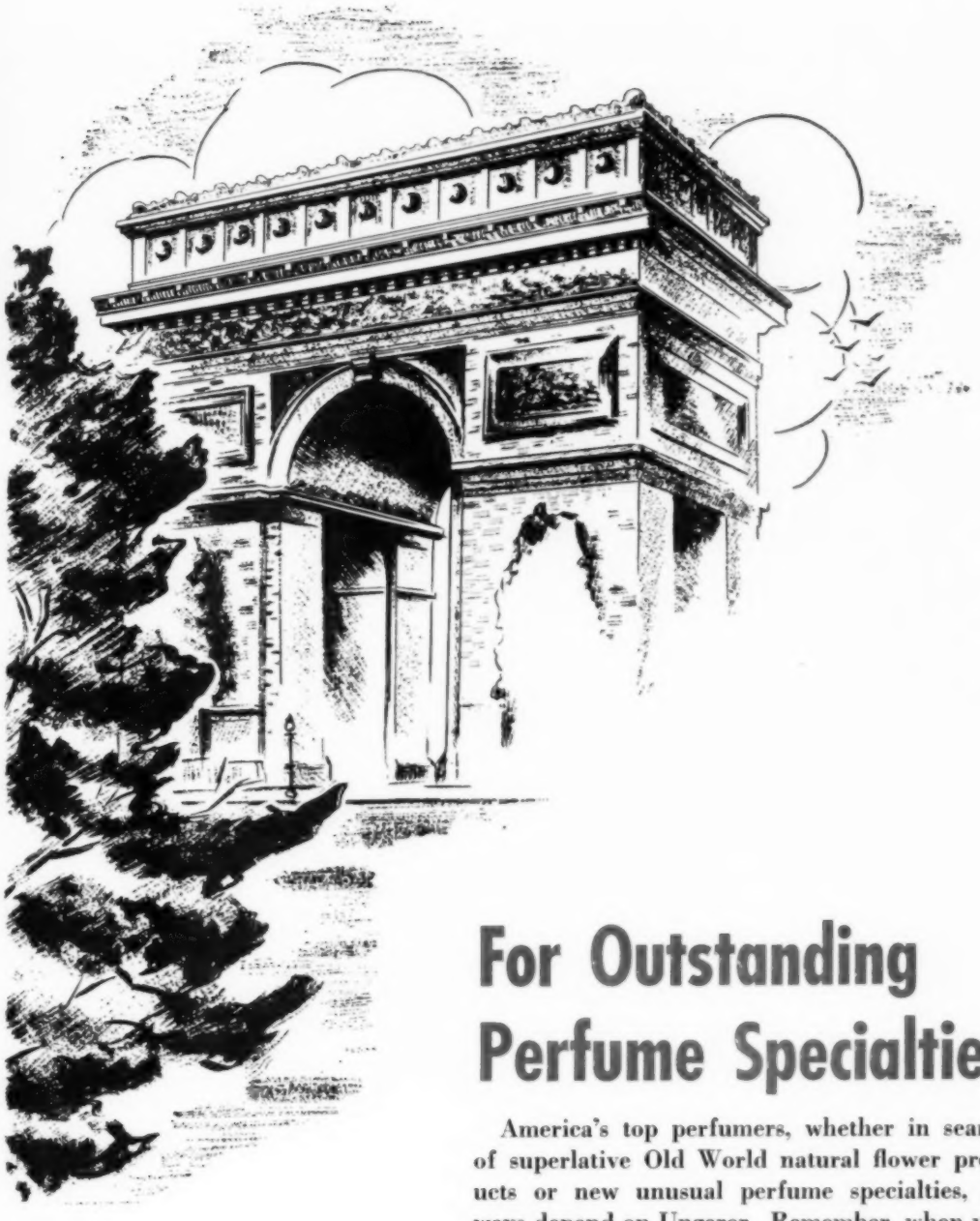

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Branch Offices: Chicago, Ill.; San Francisco, Calif.; Vernon, Calif.; Atlanta, Ga.

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